

Table 4-1. Responses to Comments

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311	1	EBMUD shares the State Water Board's goal of improving the health of the Bay-Delta watershed. We support the Voluntary Agreements (Vas) as the best approach to meeting this goal. However, as I shared during EBMUD's panel at the State Water Board's December 1, 2023 public hearing, EBMUD has serious concerns about several of the alternatives described in the Draft Staff Report, including the Proposed Plan Amendments, the Low Flow and High Flow Alternatives, and the Drought Modules. We are especially concerned by the proposed water quality objectives for unimpaired flow and cold water habitat. If these objectives and alternatives are implemented as proposed, they will cause severe and unmitigated impacts to the Mokelumne River and EBMUD, its customers, and the East Bay region.	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.
311	2	These proposals would: Harm migrating fish which rely on Mokelumne River habitat. Salmonids need cold water, and EBMUD successfully manages the available cold water supply so it will be available when the fish need it. The result is the headline-making success of the Mokelumne River fishery. The proposed unimpaired flow objectives would seriously harm our ability to manage water temperature on the Lower Mokelumne River, because EBMUD would need to release or bypass cold water we would otherwise store for the fishery. By harming the Mokelumne River fishery, the unimpaired flow objective would threaten the very same aquatic species the Draft Staff Report is attempting to protect.	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. The Staff Report acknowledges potential temperature increases could occur in some streams under some circumstances and managing these factors to protect cold water habitat for fish is complex and challenging. However, the implementation of the narrative cold water habitat objective and the flexibility provided in the inflow requirements would be expected to improve water temperature conditions for native cold water fish. The cold water habitat objective is intended to bolster existing legal protections to ensure comprehensive temperature protection over time. Although approaches may differ among tributaries, the effectiveness of cold water management will require ongoing coordination, collaboration, and technical review among water managers, stakeholders, and technical experts to facilitate both short-term and long-term planning and decision-making efforts. Please see Common Response 7.6.2, Aquatic Biological

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			Resources and Cold Water Habitat, regarding implementation of the cold water habitat objective and flexibility included in the revised proposed Plan amendments related to long-term temperature management strategy and refinement of the carryover storage target ranges. Please also see Common Response 1.3, Revised Proposed Plan Amendments, for a discussion of the cold water habitat objective of the revised proposed Plan amendments.
311	3	These proposals would: Decimate the East Bay's water supply. The Mokelumne River is indispensable to the East Bay's water supply. It is important to address environmental and municipal needs together, but the proposed Plan amendments would generate instream flows at the cost of a drastic cut to EBMUD's supply, leaving it potentially unable to meet the East Bay's reasonable water needs. The State Water Board's own modeling of the proposed Plan amendments indicates EBMUD could expect to fall at least 25% short of meeting customer water demand in virtually all years and at least 50% short in nearly half of all years—which would result in unprecedented rationing and severe economic harm.	Potential shifts in municipal water supply sources are discussed in Section 7.20, Utilities and Service Systems, in Sections 8.2.3, Municipal Water Use, and 8.5, Municipal Water Supply Economic Effects, of Chapter 8, Economic Analysis and Other Considerations, and in Section 13.7.20, Utilities and Service Systems, of the Staff Report. Please note that municipal supply portfolios contain sources aside from Sacramento/Delta supply. As a result, any reduction to the Sacramento/Delta supply available to municipal users will have a smaller overall effect on the total municipal supply. See Tables 6.4-1 and 7.20-8 in the Staff Report for an explanation of the estimated water supply impacts associated with each of the flow scenarios as they relate to total municipal supply. Additionally, in response to comments received expressing concerns about potential water supply impacts, the proposed project has been revised to include "water supply adjustments," which reduce water supply impacts. 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.
311	4	These proposals would: Fail to mitigate the water supply and fishery impacts. The Draft Staff Report incorrectly suggests EBMUD could readily develop alternative sources of water supply, overstating the feasibility of developing these new supplies. For example, projects like desalination and water recycling can take decades to develop, are very expensive, and may have their own environmental impacts. It is also infeasible to develop these sources on the scale that would be needed to replace half or more of the East Bay's	Please see Common Response 7.1, General CEQA and Approach to the Analysis, regarding the adequacy of the mitigation measures. As discussed in Chapter 13, Revised Proposed Plan Amendments, the State Water Board has removed cold water habitat objective implementation measures from the list of mitigation measures contained in Appendix H3, Mitigation Measures for the Revised Proposed Plan Amendments, as these measures are part of the proposed project itself, not mitigation of its potential impacts. Also see Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, for further

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		existing water supply. Moreover, the Draft Staff Report proposes a “cold water habitat” objective to mitigate fishery harm, but it would actually worsen the water supply impacts of unimpaired flow and could not recreate the cold water released to flow downstream. Also, the proposed “voluntary implementation pathway” does not appear to offer enough flexibility to avoid or mitigate these impacts.	discussion of the cold water habitat objective and its implementation. See also Common Response 8.1, Economic Analysis and Other Considerations, regarding the feasibility of developing new water supplies to supplement or replace existing water supplies.
311	5	These proposals would: Cause other harms to the East Bay which undermine State policy priorities. The East Bay is experiencing a housing and affordability crisis, like much of California, and about one in five of our customers in the EBMUD’s service area lives in a disadvantaged community. We expect the extreme water supply impacts caused by the proposed Plan amendments to cause ripple effects impacting water affordability, housing creation, green energy and hydropower generation, groundwater sustainability, and the East Bay economy. The economic consequences are serious: \$1.9 billion in direct economic impacts to EBMUD customers, and 333,000 lost jobs in the EBMUD service area alone.	As discussed in the 2023 draft Staff Report, activities that would have an impact on population and housing would be development or infrastructure projects that could induce substantial population growth in an area or activities that could result in displacement of substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere. Changes in hydrology and changes in water supply would not result in activities that would affect population and housing. 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. Section 7.8, Energy, appropriately evaluates energy impacts that may result from changes in hydrology or changes in water supply, and discloses that energy impacts would be potentially significant. Section 7.8, Energy, identifies mitigation measures that could reduce or avoid impacts on energy and hydropower generation. Section 7.12.2, Groundwater, appropriately evaluates impacts on groundwater and discloses that impacts on groundwater levels could occur as a result of changes in groundwater pumping, applied irrigation water, urban return flows, overlying stream hydrology, and reservoir levels. Section 7.12.2, Groundwater, discloses that impacts to groundwater would be potentially significant. Potential impacts on groundwater levels resulting from substitute groundwater pumping to replace Sacramento/Delta surface water supplies or from reduced incidental recharge could be reduced through implementation of the mitigation measures identified in Section 7.12.2, Groundwater.

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			The Staff Report contains an extensive economic analysis in Chapter 8, Economic Analysis and Other Considerations, that included a reasonable and conservative evaluation of municipal water supply economic effects. Section 8.5.1, Approach to Analysis, of the Staff Report provides an overview of the approach to analysis. More details on the approach are provided in Appendix D, Supplemental Municipal Supply Analysis Information. The results of the municipal water supply economic analysis are provided in Section 8.5, Municipal Water Supply Economic Effects, and includes Table 8.5-5 that summarizes the range of potential economic costs for municipalities to respond to reduced Sacramento/Delta supply within the San Francisco Bay Area, and identifies a range of estimated cost of \$32.2 to \$154.8 million total for municipalities in the San Francisco Bay Area to respond to reduced Sacramento/Delta supply, which is much smaller than the \$1.9 billion in direct economic effects as stated by EBMUD. EBMUD's stated economic effects appear to be derived from a third-party analysis from Sunding and Browne (2022), which was included in their comment letter. Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for responses to the issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022) and for a discussion of municipal water rates, and discussion of potential sources of funding for municipal water conservation and alternative water supplies. In addition, the project has been revised. Please see Staff Report Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, for a description of the revised proposed Plan amendments. As discussed in Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, the regulatory pathway under the revised proposed Plan amendments includes new water supply adjustments that reduce water supply impacts and allow more water to be stored in reservoirs at the outset of Plan implementation. These adjustments include both watershed-wide adjustments and tributary-specific adjustments. The tributary-specific water supply adjustments would allow for additional adjustments in rainfall-dominated and municipal

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			supply-dominated tributaries, including the Mokelumne River. This would allow for more frequent reductions in the required flow levels, as well as no new flow requirements during the driest conditions.
311	6	EBMUD has a well-earned reputation for environmental stewardship. We know the importance of a healthy Bay-Delta estuary, and for decades, have contributed water, expertise, and funding to help it thrive. On the Mokelumne River, adaptive management for environmental benefit is not a new concept. EBMUD's Joint Settlement Agreement (JSA) is now in its fourth decade as the leading legal authority on environmental flows on the Mokelumne and is a model for the Vas. The Vas provide a balanced approach to improve ecosystem conditions in the Delta without sacrificing other statewide priorities. Similar to the JSA, the Vas combine increased flows, habitat restoration, collaborative science, and adaptive management. We know this approach works, as demonstrated by the success of the Mokelumne River fishery, which is currently experiencing its greatest return in fall-run Chinook Salmon in eighty years. The Draft Staff Report should be revised to identify and analyze the significant impacts summarized in this letter and our detailed comments, along with feasible and achievable mitigations to address them.	Responses to the commenter's detailed comments, that are referred to in this comment, are provided in other responses. 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.
311	7	EBMUD has a well-earned reputation for environmental stewardship. We know the importance of a healthy Bay-Delta estuary, and for decades, have contributed water, expertise, and funding to help it thrive. On the Mokelumne River, adaptive management for environmental benefit is not a new concept. EBMUD's Joint Settlement Agreement (JSA, described below) is now in its fourth decade as the leading legal authority on environmental flows on the Mokelumne. As the headline-making success of the Mokelumne River fishery demonstrates, this process works. We believe the Voluntary Agreements represent a more collaborative approach that would improve ecological conditions in the Delta without sacrificing many other Statewide priorities. EBMUD and its partners on the Mokelumne River have prepared a proposal that incorporates and builds on our knowledge 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.

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		experience achieving real, sustainable environmental improvement without sacrificing water supply reliability and affordability.	
311	8	The Draft Staff Report does not meet the minimum requirements of the California Environmental Quality Act (CEQA). It fails to properly define the project or identify the project's objectives and a reasonable range of project alternatives. Consequently, it also fails to adequately describe and analyze the effects of the proposed action and alternatives. It also fails to identify feasible mitigations for many of the impacts it does disclose. In our comments, we will discuss the severe impacts on EBMUD, the Mokelumne River, and the East Bay. [Footnote 1: The Draft Staff Report defines the "proposed Plan amendments" as "the updates to the Bay- Delta Plan identified in the 2018 Framework and further described in" Chapter 5 of the Draft Staff Report. (Id. At p. 5-1.) The "proposed Plan amendments" include an unimpaired flow objective and a cold water habitat objective. The phrase is used with the same meaning in our comments.]	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).) Section 7.1, Introduction, Project Description, and Approach to Environmental Analysis, of the 2023 draft Staff Report provides a basic project description, including a description of the project purpose and goals, and refers to Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, for a detailed description and discussion of the proposed Plan amendments. Chapter 7, Environmental Analysis, of the 2023 draft Staff Report also includes Tables 7.1-2, 7.21-1, and 7.22-1 which identify reasonable and feasible mitigation measures to avoid significant or potentially significant adverse environmental impacts. Please see Common Response 7.1, General CEQA and the Approach to the Analysis, regarding the adequacy of the project description and mitigation measures. Section 7.24, Alternatives Analysis, of the 2023 draft Staff Report provides sufficient description of the proposed alternatives for the purposes of the analysis. See Common Response 7.24, Alternatives Analysis, regarding range of feasible alternatives and description of alternatives. In addition, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments.
311	9	If the "unimpaired flow" and "cold water habitat" objectives are implemented as proposed in the Draft Staff Report, the	Section 7.20, Utilities and Service Systems, of the draft Staff Report analyzes the impacts to municipalities in the Bay Area

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		foreseeable results will include: Decimation of EBMUD's water supply, causing severe impacts to the people and economy of the East Bay. The State Water Board's own analysis confirms that rationing and cutbacks will become the norm, to an extent previously unimaginable. There will be no feasible "replacement" water supply available to EBMUD, at least not to the extent assumed in the Draft Staff Report, and any replacement supplies that are available will be very expensive – much more than Draft Staff Report assumes – thereby driving up the water rates for our customers. Many of our customers live in disadvantaged communities and would be most affected by the higher costs, even though they can least afford it.	that encompasses EBMUD. 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 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.
311	10	Harm to the successful Mokelumne River fishery, by reducing the supply of cold water available to support migrating salmonids in warmer months. The alternatives in the Draft Staff Report would roll back decades of work by EBMUD, together with state and federal fishery agencies, nongovernmental organizations, and other local partners, that has successfully enhanced and grown the Mokelumne River fishery.	Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion on the reasonable protection of fish and wildlife beneficial uses. Additionally, please see Common Response 1.3, Revised Proposed Plan Amendments, for an overview of the cold water habitat objective and its interaction with the unimpaired flow objective. Information on water temperatures and cold water pool issues for salmon and steelhead populations can be found in 2023 draft Staff Report Sections 3.4.4, Dam and Reservoir Effects on Salmonids, and 4.3.5, Temperature. As discussed in Section 5.4.3.3, Proposed Cold Water Habitat Objective, of the 2023 draft Staff Report, a cold water habitat objective is proposed as a complementary measure to the inflow objective to ensure there are no redirected impacts on cold water habitat from the new flow objectives and to address other existing and potential future temperature management concerns for salmonids and other native species. As reiterated in Section 13.3.3.3, Cold Water Habitat, of the final Staff Report, the cold water habitat objective would be implemented through requirements for management of cold water storage and releases and/or alternative protection measures to ensure that fish below dams are kept in good condition consistent with Fish and Game Code section 5937 and the cold water habitat objective.

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			Implementation of the flow requirements will not deplete reservoir storage. Please see Section 6.3.2, Reservoir Storage and Elevation, for information on how carryover storage targets as part of the cold water habitat objective will prevent complete drawdown of reservoirs. Please also see Chapter 3 of the 2023 draft Staff Report and Common Response 3.1, Fish Protection, for discussions of the benefits of increased flow for fish and wildlife.
311	11	The 1998 Joint Settlement Agreement (JSA) The Lower Mokelumne River JSA is a Successful Comprehensive Fisheries Improvement Program Which Ensures Flow and Nonflow Measures to Benefit the Fishery Ecosystem. As noted in the Draft Staff Report, in 1998 EBMUD entered into the JSA with the California Department of Fish & Game – now CDFW [Footnote 2: Both the 1961 Agreement and JSA were entered into by EBMUD with the state fisheries and wildlife agency, then known as the California Department of Fish & Game. Several years ago that state agency changed its name to the California Department of Fish and Wildlife (CDFW). This letter refers to the agency by its current acronym, CDFW.] – and the United States Fish & Wildlife Service (USFWS). The JSA replaced the prior fishery regulatory requirements on the Mokelumne River, as set in a 1961 Agreement, [Footnote 3: A condition imposed by the State Water Board in 1956 in Decision 858 approving EBMUD’s Camanche water right, Permit 10478, required EBMUD to reach an agreement with CDFW regarding flows to be released downstream for the protection of fish in the lower Mokelumne River. Accordingly, in 1961 EBMUD entered into an agreement with CDFW (1961 Agreement) that required EBMUD to release 13,000 acre-feet annually from Camanche Reservoir to the lower Mokelumne River to benefit aquatic habitat and fish production. These flows were in addition to releases for riparian and senior appropriators on the river. In addition, at CDFW’s request, the 1961 Agreement also required EBMUD to construct a fish hatchery at Camanche Dam, with the hatchery to be operated by CDFW. Consistent with that agreement, EBMUD built the fish hatchery, which was 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.

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		continues to be operated by CDFW. (Permit 10478 Time Extension Project Draft Environmental Impact Report, September 2013, p. 3.2-21-22.)) with a comprehensive, modern package of flow and non-flow measures designed to protect and enhance fishery resources. The JSA is founded upon a principle of partnership. EBMUD and state and federal fisheries agencies work collaboratively to improve the fishery, together with nongovernmental organizations and local stakeholders. The JSA is a science-based program which draws upon years of Mokelumne River ecosystem fishery and wildlife monitoring and reporting. That science guides management decisions. EBMUD operates under the JSA to provide flow and nonflow measures for environmental benefit, as follows: - JSA Flow Measures: The JSA significantly increased environmental flows on the Mokelumne. Its minimum flow requirements are significantly higher than the prior obligation under the 1961 Agreement which it replaced – up to 13 times higher in Normal and Above year types. (See Figure 1 [Exhibit 1].) The JSA's flow requirements are year-round, even in the driest year types, and are designed to meet the life stages of anadromous fish. The JSA includes a range of additional flow-related provisions, including flow ramping rate provisions, and a “gainsharing” provision requiring EBMUD to release a portion of any new water supplies it develops in the form of additional flows above the JSA minimum base flows, up to 20 thousand acre-feet (TAF). [Footnote 4: The JSA's gainsharing provision requires EBMUD to make release equal to 20 percent of the yield of new water supplies it develops, up to 20 TAF.] - JSA Non-Flow Measures: The JSA also includes a full suite of non-flow measures, including the following: -- Habitat Enhancement: A range of habitat enhancement measures such as: --- Spawning Gravel Augmentation: Improving spawning gravels by the placement and configuration of spawning gravel in the lower Mokelumne River. EBMUD began this work in 1990, prior	

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		to the JSA, and has continued and enhanced the work with its partners under the JSA. --- Planting Vegetation: Planting trees and shrubs in the riparian corridor to provide shade, shelter, and other ecosystem benefits. --- Flood Plain Habitat: Creating rearing habitat by reconnecting flood plain habitats, and creating new side channel rearing habitat adjacent to the main stem of the Mokelumne River. --- Fish Screens: Screening diversions of landowners along the river to enhance fishery survival. --- Additional Habitat Measures: Partnership work under the JSA has expanded beyond even those habitat measures listed in the JSA, to include actions such as increasing slope/sediment transport/geomorphic processes in the lower Mokelumne River. -- Temperature: In addition, the JSA contains a temperature management provision under which EBMUD is to make its best efforts to maintain a minimum of 28 TAF hypolimnetic volume in Camanche through October whenever Pardee Reservoir volume exceeds 100 TAF. The goal is to maintain cool water in the reservoirs for subsequent release downstream to benefit anadromous fish. -- Fish Hatchery: EBMUD was required by the JSA to fund up to \$12.5 million to expand and upgrade the Mokelumne River Fish Hatchery. Consistent with that provision, EBMUD funded and upgraded the hatchery. The new hatchery was dedicated in 2002, and it continues to be operated by CDFW. -- Adaptive Management: To optimize habitat conditions, the JSA provides for adaptive management whereby river operations can be modified if warranted by river conditions and scientific information. This allows the JSA Partnership to adapt to real-time changing conditions. Under the adaptive management provision, after obtaining the concurrence of the fishery agencies, EBMUD may reschedule or modify the JSA flows provided that the total quantity of water released in a given year will not be less than the quantity of water required by the JSA	

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		flow tables. In its approval of the JSA flows, the State Water Board included an additional requirement that, 30 days prior to such an adaptive management flow change, EBMUD must submit to the Executive Director of the State Water Board an operations plan acceptable to the Executive Director that specifies the release schedule for that year. [Footnote 5: State Water Board Revised Water Right Decision 1641 (March 15, 2000) (hereinafter “D- 1641”), Condition 5 at p. 176.] In the years since the State Water Board imposed this condition, EBMUD has submitted, and the Executive Director has approved, several adaptive management flow changes. [Footnote 6: For example, adaptive management requests were made to and approved by the State Water Board under the JSA in 2004, 2009, and 2012.] On the Mokelumne River, adaptive management for environmental benefit is not a new concept. This JSA is now in its fourth decade as the leading legal authority on environmental flows on the Mokelumne. As the headline-making success of the Mokelumne River fishery demonstrates, this process works. It offers useful flexibility to adjust flows to meet changing conditions, thereby further benefitting the fishery ecosystem. After all parties executed the JSA in 1998, the Federal Energy Regulatory Commission (FERC) approved it in 2000. EBMUD is required to comply with the JSA by the FERC license issued for its Mokelumne River Project. [Footnote 7: FERC Project No. 2916.]	
311	12	[Exhibit 1: Graph of JSA flow commitment and proposed Mokelumne VA flows compared to 1961 requirements.]	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.
311	13	The State Water Board Approved the JSA's Flow Requirements in Water Rights Decision 1641 (D-1641) and Expressly Determined That Its Flow Requirements Are Appropriate and In the Public Interest. In the Bay-Delta water rights adjudication which resulted in D-1641, the State Water Board considered what the Mokelumne	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 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. Commenter is correct

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		River's reasonable contribution to the Bay-Delta ecosystem should be. As part of that water rights hearing, the State Water Board examined EBMUD's newly negotiated JSA flows and found the JSA "would provide additional flows to the Delta." [Footnote 8: D-1641, p. 58] The State Water Board also found those flows are the tributary's appropriate contribution and that it "would not be in the public interest to require more water from the Mokelumne river system than will be provided under the JSA." [Footnote 9: D-1641, p. 63 (emphasis added).] Having made these determinations, the State Water Board modified EBMUD's water rights to incorporate the JSA flows into them. D-1641 requires EBMUD to release the JSA flows as a condition of exercising its rights. The State Water Board thoroughly considered the sufficiency of the JSA flows in D-1641, which includes several pages of detailed tables setting forth the required JSA fishery flow releases. [Footnote 10: D-1641, pp. 170-177.] EBMUD has consistently made all required fishery flow releases to the lower Mokelumne River, year-round and in all water-year types, consistent with the JSA, D-1641, and EBMUD's FERC license; and EBMUD has never sought a temporary urgency change to relax the flow requirements. The results since 1998 show the JSA has been a remarkable success, attributable to its sound underlying principles and consistent implementation. This success sets the Mokelumne River apart from most of the Bay-Delta watershed, in that few other water rights were amended to implement fishery and water quality flows in D-1641, and where such amendments were made, the water users involved have at times not met the stringent flow and water quality requirements.	that in D-1641 the Board assigned responsibilities to water users in the Mokelumne watershed to contribute specified amounts of water to meet the 1995 Bay-Delta Plan objectives based on the Joint Settlement Agreement (JSA) between EBMUD, USFWS and DFG to protect fish and wildlife resources in the Mokelumne River system. DWR agreed to backstop a share of any additional Mokelumne River responsibility that the SWRCB determines after conducting further proceedings. 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.) As explained in Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, and Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, since the time the Bay-Delta Plan was last updated and implemented, populations of native aquatic species in the Bay-Delta watershed have shown significant signs of decline due to a combination of factors, including hydrologic modifications, non-flow physical habitat degradation, water quality impairments, and climate change. Scientific information indicates that restoration of more natural flow functions is needed to address these declines in an integrated fashion with physical habitat improvements. Current conditions may be protective of fish and wildlife in some locations; however, the revised proposed Plan amendments were developed to improve flow and water quality conditions over a larger geographic area, and particularly for fish and wildlife beneficial uses in the Sacramento River watershed, Delta eastside tributaries, and Delta regions (Sacramento/Delta). Implementation of the revised proposed Plan amendments is expected to improve watershed functions and to provide associated benefits to the aquatic ecosystem and biological resources within the tributaries, the Delta, and the Bay. The State Water Board acknowledges significant efforts taken on

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			various tributaries. The Plan amendments are intended to be complementary to existing regulatory requirements where they exist to provide sufficient flow for instream beneficial uses within a specific area 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. See also Common Response 1.1, General Comments. Please see Common Response 1.2, Water Quality Control Planning Process, for discussion of the State Water Board's authority to adopt water quality objectives and implement them through separate proceedings.
311	14	The JSA Has Improved Fish Abundance Within the Mokelumne Fishery and Beyond. The JSA's success is illustrated by the Mokelumne River's high fish returns, its fishery's outsized contribution to the ocean catch, and its status as a temperature refuge for fisheries on other tributaries. The JSA Has Multiplied the River's Annual Salmon Returns. Records of Chinook salmon returns to the Mokelumne River date back to 1940. A review of the extensive history illustrates the success attained under the JSA, as salmon returns since 1998 are	Please see Common Response 1.1, General Comments, for response 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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		more than two-and-a-half times higher than the long-term average before the JSA. See Figure 2 [Exhibit 2] below. This long-term perspective is important, as it avoids distortions that can occur from looking at fish returns data for a single year or a few years in isolation. [Footnote 11: EBMUD notes that this often happens in fishery debates, as, for example, those wishing to argue a fishery is doing poorly may focus on just a few years of low returns in isolation, implying that the fishery always does so poorly. Whereas by taking a step back and looking at the longer-term big picture, by looking, for example, at the over 80-years of history shown on Figure 2, one can readily see that returns of fall-run Chinook salmon are cyclical, with repeated cyclical highs and lows, and that low returns often coincide with droughts. One can also see that the 25 years of post-JSA returns on the Mokelumne River are markedly higher—over 2½ times higher—than during the 55-year period before the JSA was implemented.] The most recent information on the health of the Mokelumne River fall-run Chinook fishery is the current fall 2023 fishery returns. Although as of the writing of these comments that run is not yet complete, as of January 2, 2024, the run was over 28,000 fish, which is a record number on the Mokelumne River over the entire 83-year period for which historic records are available. While some may downplay the significance of the Mokelumne's returns by arguing that the strong fishery results are due to the Mokelumne Hatchery, there are numerous hatcheries throughout the Delta watershed, including hatcheries on the Sacramento River, Feather River, American River, and Merced River, which shows that hatcheries alone do not explain the success on the Mokelumne River. Rather, the Mokelumne River fishery results reflect the strength of the JSA partnership and the long-term commitment of partners on the river to rely on science to implement an effective flow regime with multi-faceted non-flow measures.	
311	15	[Exhibit 2: Graph titled Figure 2. Chinook salmon returns to the Mokelumne River, 1940 through December 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.

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311	16	The Mokelumne River Fishery Provides an Outsized Contribution to the Statewide Salmon Harvest. The Mokelumne is a small river and provides only 2.5 percent of total Delta outflow. Yet over the past ten years it has accounted for 19% of California's total commercial catch of salmon, and 22% of the statewide recreational catch. Last year, it provided 51% of California's commercial catch and 44% of its recreational catch. This disproportionately beneficial salmonid contribution from such a small river reflects the long, successful JSA partnership between EBMUD and the fisheries agencies, working together with river stakeholders.	Please see Common Response 1.1, General Comments, for response 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.
311	17	The Mokelumne River is a Temperature Refuge for Other Tributaries. The Mokelumne River has been used by fishery managers from other rivers as a refuge for fish during periods of elevated water temperature on other rivers. For example, in 2014, hatchery managers on the American River moved approximately 900,000 fingerling trout from the American River Hatchery to the Mokelumne River because of the cold water available on the Mokelumne resulting from EBMUD's temperature management operations under the JSA. This was not the only time this had been done. In 2021 it occurred as well, with approximately 500,000 Nimbus Hatchery steelhead being held oversummer at the Mokelumne River Fish Hatchery to avoid lethal temperatures on the American River. The river's ability to serve as a refuge is only possible because of the collaboration among agencies to implement water temperature management programs on the Mokelumne, using operational flexibility under the JSA. EBMUD has successfully worked with its partners in the 25-year JSA era.	Please see Common Response 1.1, General Comments, for response 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.
311	18	The JSA Is a Model for Other Rivers. The Mokelumne River fishery's success under the JSA's framework can serve as a model for other rivers in the Delta watershed. The attributes that make the JSA a successful model include: - Partnership: The JSA is implemented in coordination with CDFW and in consultation with federal fisheries agencies, water	Please see Common Response 1.1, General Comments, for response 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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		users, and other interested parties. It emphasizes the benefits of a working partnership between water diverters, fishery agencies, nongovernmental organizations, and other local stakeholders. - Science-Based: The decision-making is science-based, drawing on the extensive science database that has been developed by EBMUD and its partners on the Mokelumne River beginning in the late 1980s to inform decision-making on the river. (See Section II, below, and Exhibit G [ATT 7] for more information on the extensive Mokelumne River science database.) - Integrated Approach: The JSA uses an integrated approach that combines flows and habitat actions tailored specifically for the Mokelumne River (i.e., neither “all flows” nor “all habitat”). Since the 1990s, the JSA’s approach has been to blend flow and nonflow measures to achieve positive ecosystem results while maintaining water supplies. Designing a flow and habitat program for each specific tributary based on its specific needs (and, not a one-size-fits-all approach such as unimpaired flow) is reasonable, balanced, and, as noted above, it works. That is why it should be seen as a model for other tributaries in the Delta watershed.	
311	19	The Draft Staff Report Continues the State Water Board’s Ongoing Failure to Consider the Best Available Science Regarding the Mokelumne River. The draft Staff Report should utilize the best, most current available science in its analysis of the Mokelumne River and in setting proposed Plan amendments for the river. That science exists and has been provided to the State Water Board. Unfortunately, the draft Staff Report does not rely on it.	See Common Response 3.1, Fish Protection, on use of best available science.
311	20	The Mokelumne River Fishery Ecosystem Database Over decades, EBMUD together with its partners in the state and federal fisheries agencies, universities and other researchers, has compiled an extensive scientific database on the Mokelumne River fishery ecosystem. EBMUD and its partners conduct field studies in the river and in the riparian corridor on an annual	See Common Response 3.1, Fish Protection, on use of best available science and the 2026 Scientific Basis Report Supplement and Common Response 1.1, General Comments, on comments on other projects.

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		basis, from which studies and reports are prepared and/or published. EBMUD has repeatedly made that information available to the State Water Board in the water quality control planning process. For example: 2012 NOP Comments: In EBMUD's 2012 Scoping Comments in response to the Notice of Preparation of CEQA documentation for the update to the Bay Delta Plan, EBMUD provided the State Water Board with a web link to an extensive "Mokelumne River habitat monitoring program and science database" that was compiled through decades of monitoring, study, and reporting on the river ecosystem. (EBMUD Scoping Comments letter, April 24, 2012, p. 2.) This information was compiled from over 70 studies, reports, and published literature. 2016 Draft SBR Comments: In its comment letter on the 2016 Draft Scientific Basis Report, EBMUD provided the State Water Board with a computer disk containing published science on the Mokelumne River and its fisheries, and the FERC 6- and 10-year review reports, which focus on fisheries issues. That comment letter is included with these comments as Exhibit D [ATT 4]. 2023 Draft SBR Supplement Comments: And in its February 6, 2023 comments on the Draft Scientific Basis Report Supplement, EBMUD again provided current fisheries information, in the form of web links to fisheries reports and published data. That comment letter is included with these comments as Exhibit E [ATT 5]. This scientific database represents the best available science on the Mokelumne fishery ecosystem. Unfortunately, the draft Staff Report does not rely on this information.	
311	21	The Draft Staff Report Does Not Rely on the Best Available Science in its Assessment of and Setting Proposed Plan Amendments for the Mokelumne River Chapter 3 of the draft Staff Report is entitled "Scientific Knowledge to Inform Fish and Wildlife Recommendations." It begins by stating that it provides a review and summary "of the best available science" on flow needs for the protection of fish	See Common Response 3.1, Fish Protection, on use of best available science and data sources.

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		and wildlife beneficial uses. [Footnote 12: Draft Staff Report, p. 3-1 (emphasis added).] Thus, Chapter 3 should be the place to look to determine what scientific knowledge the State Water Board relied upon in its assessment of current fishery conditions and its preparation of the proposed Plan amendments for the Mokelumne River. Chapter 3.4.3.5 concerns “Fall-Run Chinook Salmon.” While it includes some assessment of salmon escapement and production on the Sacramento River [Footnote 13: See id. at p. 3-31, Figures 3.4-9 and 3.4-10.] and San Joaquin River, [Footnote 14: See id. at p. 3-32, Figure 3.4-11.] it does not include the Mokelumne River. (And for the rivers it does cover, its salmon figures appear to stop at 2014-2015; they do not include current data.) This outdated, spotty recitation of alleged science is simply inadequate. It falls far short of “the best available science” and, critically, does not provide the substantial evidence required to support the imposition of the proposed Plan amendments on the Mokelumne River. The Draft Staff Report should be revised to include and utilize the best available science. To assist the State Water Board in its assessment of the Mokelumne River and in developing any necessary proposed Plan amendments for the river, with this submittal EBMUD again provides the Mokelumne River science database to the State Water Board. (Please see Exhibit G [ATT 7] to this comment letter.)	
311	22	The Scientific Basis Report is Inadequate The Scientific Basis Report is likewise inadequate as support for the proposed Plan amendments on the Mokelumne River. As noted above, EBMUD has earlier reviewed and commented upon both (a) the October 2016 Working Draft Scientific Basis Report, noting the significant problems and inadequacies with that document (see Exhibit D [ATT 4]), and (b) the 2023 Draft Scientific Basis Report Supplement (see Exhibit E [ATT 5]). As detailed therein, the Scientific Basis Report does not utilize the best available science on the Mokelumne River. It therefore cannot serve as the basis for an accurate assessment of the	Both Scientific Basis Reports have undergone independent peer review. Please see Common Response 3.1, Fish Protection, for information on the scientific basis reports and the use of best available science.

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		Mokelumne River or to support the imposition of the proposed Plan amendments on the Mokelumne River.	
311	23	The Draft Staff Report Fails to Follow a Lawful Water Quality Control Planning Process Compliant with the Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act [Footnote 15: Wat. Code, div. 7.] (Porter-Cologne) governs the establishment and modification of water quality control plans, which in the Draft Staff Report is referred to as the Bay-Delta Plan. [Footnote 16: Draft Staff Report, p. 5-3. Per the Draft Staff Report, the last major update to the flow objectives for the protection of fish and wildlife beneficial uses in the Sacramento River watershed and Delta occurred in 1995, and the current Bay-Delta Plan “is primarily implemented through water right requirements included in State Water Board Water Right Decision 1641 (D-1641).” (Ibid.)] Chapter 5 of the Draft Staff Report describes changes to the Bay-Delta Plan for the Sacramento/Delta and includes Plan amendments. There are significant, and in some cases severe, impacts that would result from the imposition of the proposed Plan amendments on the Mokelumne River. Under Porter-Cologne, a water quality control plan consists of three elements: identification of beneficial uses to be protected, water quality objectives to protect those beneficial uses, and a program of implementation to achieve those objectives. [Footnote 17: Wat. Code, § 13050, subd. (j).] The proposed Plan amendments run afoul of Porter-Cologne with respect to all three elements described below.	Please see Common Response 1.2, Water Quality Control Planning Process, regarding the State Water Board’s water quality control planning authorities and duties under the Porter-Cologne Water Quality Control Act. Please also see the responses to comments 311-24 through 311-33.
311	24	The Draft Staff Report Fails to Appropriately Consider Protection of All Beneficial Uses, Instead Focusing Exclusively on the Protection of Just One Type of Beneficial Use. Porter-Cologne defines the types of beneficial uses that may be protected. These uses include (but are not limited to) municipal and industrial uses, domestic, agricultural, power generation, and recreation uses, and preservation and enhancement of fish, wildlife and other aquatic resources or preserves. [Footnote 18: Id. at § 13050, subd. (f).] The current Bay-Delta Plan includes water quality objectives to protect municipal and industrial,	The existing 2018 Bay-Delta Plan and regional water quality control plans covering portions of the Bay-Delta watershed provide reasonable protection for beneficial uses other than fish and wildlife. In response to declines of several native aquatic species since the last time the Bay-Delta Plan was comprehensively updated, the State Water Board is in the process of updating the Plan to ensure the reasonable protection of fish and wildlife. While Water Code section 13241 requires the State Water Board to consider a set of factors and ensure the reasonable protection of beneficial uses when establishing or amending a water quality control plan, nowhere does it require

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		agricultural, and fish and wildlife beneficial uses. [Footnote 19: Draft Staff Report, p. 5-2.] The existing Plan protects all three of those major types of beneficial uses. In contrast, the State Water Board's current update is exclusively focused on just one type of beneficial use: fish and wildlife. As the Draft Staff Report states in Chapter 5's introduction, "[t]his chapter describes possible updates to the Bay-Delta plan for the reasonable protection of fish and wildlife." [Footnote 20: Id. at p. 5-1.] In other words, the current update is focused on just one beneficial use – fish and wildlife – to the detriment of other beneficial uses. This focus on one type of beneficial use to the detriment of other equally legitimate types of beneficial use, such as municipal and industrial uses, pervades the entire Draft Staff Report. It places fisheries and wildlife uses in a primacy position, to the detriment of other legitimate uses, which in EBMUD's case results in severe impacts to the municipal and industrial water use in the East Bay. The narrow focus on one beneficial use above all other beneficial uses is contrary to law. Water Code section 13241 provides that water quality objectives are to be established to "ensure the reasonable protection of beneficial uses and the prevention of nuisance..." (emphasis added).	that each individual water quality objective must protect all beneficial uses. Here, water quality objectives added or amended via the current process to update the Bay-Delta Plan will join a set of existing water quality objectives aimed at protecting other beneficial uses. Please also see Common Response 1.2, Water Quality Control Planning Process, for further discussion of the State Water Board's consideration of beneficial uses during the water quality control planning process, and how the State Water Board analyzes the factors set forth in Water Code section 13241 when setting water quality objectives.
311	25	The proposed Plan amendments, particularly the proposed unimpaired flow objective and the narrative cold water habitat objective, would: - Decimate EBMUD's water supply, resulting in up to 88% rationing in some instances. The East Bay will cease to be a functioning metropolitan community if 88% of its water is taken by the State Water Board. This would severely impact the existing municipal uses in EBMUD's service area, including the homes, schools, businesses, health facilities and institutions now dependent on that Mokelumne River supply.	Please see the response to comment 311-9.
311	26	- Impose extreme economic costs in the EBMUD service area. EBMUD conducted a study in 2022 of the economic impacts in its service area resulting from the imposition of the proposed unimpaired flow objectives – without even considering the added costs resulting from the narrative cold water habitat	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments (Sunding and Browne 2022).

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		objective, which were then unknown – and found that a 45-55% unimpaired flow objective could cause up to \$56 billion in business losses in a drought year, and the loss of hundreds of thousands of jobs.	
311	27	- Adversely impact the Mokelumne fishery. The State Water Board's proposed Plan amendments is at best a trade, taking water from the Mokelumne River to potentially benefit one type of use – fisheries in the Delta – at the cost of adversely impacting an important tributary fishery in the Mokelumne River.	The 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. Implementation is expected to improve watershed functions and to provide associated benefits to the aquatic ecosystem and biological resources within the tributaries, the Delta, and the Bay. The Plan is intended to improve ecosystem functions on tributaries, and to connect flows from throughout the watershed with the Delta to support native estuarine species. The Staff Report acknowledges the ongoing efforts that are occurring in some tributaries. See Common Response 1.1, General Comments, for more discussion of existing efforts and agreements and how they relate to the Sacramento/Delta update to the Bay-Delta Plan.
311	28	Further, the approach is not reasonable. Section 13241 provides that water quality objectives must “ensure the reasonable protection of beneficial uses...” (emphasis added). The proposed Plan amendments would decimate EBMUD's municipal water supply, thereby damaging a thriving municipal area and causing severe economic impacts, unduly harming disadvantaged communities, and harming the Mokelumne fishery. There is nothing reasonable about the proposed amendments.	The Sacramento/Delta update to the Bay-Delta Plan is focused on the reasonable protection of fish and wildlife in the Sacramento River and its tributaries, Delta eastside tributaries (including the Calaveras, Cosumnes, and Mokelumne Rivers), and Delta. The Staff Report provides scientific information to support possible updates and information on the potential benefits and environmental, economic, and other impacts and associated mitigation measures for possible alternatives for updating the Sacramento/Delta portions of the Bay-Delta Plan. Staff Report Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, provides a review and summary of the best available science on flow needs for the protection of fish and wildlife beneficial uses. Consistent with the consideration of factors under Water Code section 13241, the State Water Board included an extensive economic analysis in Chapter 8, Economic Analysis and Other Considerations. Please refer to Common Response 1.2, Water Quality Control Planning Process, for Board consideration of factors under Water Code section 13241, and Common Response 6.3, Water Supply and Other Water Management Actions, for a discussion of water supply. Also refer to Common Response 8.1,

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			Economic Analysis and Other Considerations, for additional regulatory context. Also see Common Response 8.1, Economic Analysis and Other Considerations, for a discussion of municipal water rates, and discussion of potential sources of funding for municipal water conservation and alternative water supplies.
311	29	Finally, the proposed Plan amendments are not balanced. The proposed Plan amendments in the Draft Staff Report is in contrast to the balanced approach taken by the State Water Board as to the Mokelumne River in D-1641, where it considered all uses and demands placed on water within the Delta watershed, and struck a reasonable balance among the public interests at stake. As noted in Section I above, in D-1641 the State Water Board approved the Mokelumne River JSA flows as the reasonable contribution of EBMUD to the Delta under the 1995 WQCP, a decision upheld in the State Water Resources Control Board Cases (2006) 136 Cal.App.4th 674. That approval of the JSA reasonably balanced the need to protect and enhance fisheries while preserving the Mokelumne River as a viable water supply. The JSA (and its incorporation into D- 1641) demonstrated that it is possible to adopt a reasonable, balanced approach in setting water quality objectives to protect multiple beneficial uses. The proposed Plan amendments abandons that that balanced approach.	Chapter 3 of the 2023 draft Staff Report, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, contains extensive analysis of the benefits of flow and its role as a critical element of protection and restoration. Please see final Staff Report Section 13.6.2, Water Code Section 13241 Analysis, for the State Water Board's evaluation of the factors required under Water Code section 13241, including past, present, and probable future beneficial uses of water in the area covered by the Plan. Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of the State Water Board's consideration of beneficial uses during the water quality control planning process. As described in Chapter 5 of the 2023 draft Staff Report, the inflow requirements would include flow shaping provisions that would allow for the seasonal shaping of the flow requirement to benefit fish and wildlife. This flexibility is retained in the regulatory pathway of the revised proposed Plan amendments. Chapter 3 of the 2023 draft Staff Report describes the benefits of a more natural flow regime both for tributaries and for their contributions to Delta outflows and the resultant benefits to fish and wildlife in the Bay-Delta. In addition to the proposed Plan amendments, which remain part of the project as the regulatory pathway, the project has also been revised based on comments received expressing concerns over potential water supply and carryover storage impacts. The inflow requirements contained in 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 1.3, Revised Proposed Plan Amendments, for a discussion of the revised

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			proposed Plan amendments' inflow objective and its associated water supply adjustments. The regulatory pathway also includes additional tributary-specific water supply adjustments on a subset of tributaries, including the Mokelumne River, that would allow for more frequent reductions in flow requirements and no new flow requirements during the driest conditions. In response to comments asserting that the initial carryover storage requirements were too restrictive, the revised proposed Plan amendments allow reservoir owner/operators, as part of their development of long-term temperature management strategies, to propose their own carryover storage levels within an appropriate range tailored to each reservoir (including Pardee and Camanche Reservoirs on the Mokelumne River), that is lowered during drought years. The revised proposed Plan amendments' program of implementation also provides for a VA pathway for an initial eight-year term that reduces flow contributions required from VA water rights, including those held by East Bay Municipal Utility District. Finally, the program of implementation also contains numerous flexible provisions allowing for adaptive management to minimize water supply impacts (e.g., the ability to manage numeric flow requirements as a total volume of water to shape flows) and also contains provisions allowing the State Water Board to develop and implement curtailment exceptions for human health and safety needs and other appropriate purposes.
311	30	The Draft Staff Report Does Not Properly Consider Section 13241 Required Factors in the Setting of Proposed Water Quality Objectives The Porter-Cologne Act requires the establishment of water quality objectives to ensure the reasonable protection of beneficial uses. Water Code section 13241 expressly lists six mandatory factors that must be considered when setting objectives: "Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all the following:	Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of the State Water Board's evaluation of the factors listed in Water Code section 13241 to be considered when setting water quality objectives.

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		(a) Past, present, and probable future beneficial uses of water. (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto. (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area. (d) Economic considerations. (e) The need for developing housing within the region. (f) The need to develop and use recycled water.” [Footnote 21: Wat. Code, § 13241, subds. (a)-(f).] The State Water Board has not adequately considered all these required factors in developing the proposed Plan amendments.	
311	31	Failure to Adequately Consider Section 13241(d) Economic Factors The Draft Staff Report has not adequately considered economic factors as required by Water Code section 13241(d). While the Draft Staff Report purports to review the economic effects of the proposed Plan amendments, that review is flawed by relying on inaccurate assumptions about (a) the actual water supply shortages that would result from the amendments, and (b) the availability of replacement water to make up for water taken by the proposed Plan Amendments. The Draft Staff Report does not assess these impacts. Further, the water shortages that would result from the imposition of the proposed Plan amendments would lead to severe economic impacts. The Draft Staff Report contains no specific analysis of the economic impacts in EBMUD’s service area that would result from the imposition of the proposed Plan amendments. EBMUD conducted an economic review, finding that the impacts would be severe: tens of billions of dollars in business losses, and hundreds of thousands of lost jobs. The	The Staff Report appropriately discloses the potential municipal water supply economic effects of the flow scenarios. Section 8.5, Municipal Water Supply Economic Effects, acknowledges that implementation of the flow scenarios could result in surface water and groundwater supply reductions to municipal users. The analysis presented in Section 8.5, Municipal Water Supply Economic Effects, estimates the potential costs to affected municipal service providers of securing reliable water supplies, with the focus on (1) increased cost of meeting the same demand through development of other water supplies; (2) the opportunity cost of lost supply if no other supply sources are available; or (3) costs of meeting the same demand using other water supplies already being used by municipalities within existing water portfolios. Staff Report Section 8.5, Municipal Water Supply Economic Effects, and Appendix D, Supplemental Municipal Supply Analysis Information, provide additional information about the analysis of municipal water supply economic effects. The analysis provided in the Staff Report is appropriately detailed for the scope of the project. Please see Common

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		failure of the Draft Staff Report to adequately consider the economic factors of the proposed Plan amendments in the EBMUD service area violates Water Code section 13241(d).	Response 8.1, Economic Analysis and Other Considerations, for additional regulatory context including information on the level and scope of the economic analysis , for responses to comments regarding the third-party economic analysis submitted with EBMUD’s comments on the 2023 draft Staff Report (Sunding and Browne 2022), and for additional discussion of the regulatory context related to the water quality control planning process. Also see Common Response 1.2, Water Quality Control Planning Process, for a discussion on Board consideration of factors under water code Section 13241.
311	32	Failure to Adequately Consider Section 13241(e) Housing Factors Water Code section 13241(e) requires the consideration of the “need for developing housing” when establishing water quality objectives. The Draft Staff Report fails to assess how the proposed Plan amendments’ water quality objectives impacts the need for developing housing in the EBMUD service area. The failure of the Draft Staff Report to adequately consider the housing factors of the proposed Plan amendments in the EBMUD service area violates Water Code section 13241(e).	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.
311	33	The Draft Staff Report Inadequately Describes the Program of Implementation. The third required component of a water quality control plan is a program of implementation to achieve the water quality objectives. Per the Draft Staff Report, the changes to the program of implementation “has not yet been developed.” [Footnote 22: Draft Staff Report, p. 5-1.] An EIR is an informational document that informs the public of what the proposed project is, what its potentially significant environmental impacts are, and established proposed measures to mitigate such impacts to a level of insignificance. The Draft Staff Report, by not fully describing the proposed program of implementation makes it impossible to provide informed public comment on the program of implementation.	The 2023 draft Staff Report included a detailed description of the proposed contents of the program of implementation in sufficient detail for the purposes of the analysis. However, drafts of the Bay-Delta Plan were subsequently released for public review and comment in October 2024, July 2025, and December 2025. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information.
311	34	The Draft Staff Report’s Project Description, and Its Selection and Description of the Baseline, Do Not Comply With CEQA.	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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		The State Water Board's water quality control planning program is a certified regulatory program and the State Water Board therefore prepared an SED in lieu of an EIR in order to comply with CEQA. [Footnote 23: Cal. Code Regs., tit. 14, § 15251, subd. (g).] Section 3777 of the State Water Board's CEQA regulations provides that "[a]ny water quality control plan ... proposed for board approval or adoption must include or be accompanied by Substitute Environmental Documentation (SED) and supported by substantial evidence in the administrative record." [Footnote 24: Id. at tit. 23, § 3777, subd. (a).] As noted in the Draft Staff Report, in accordance with CEQA and the State Water Board's regulations, the draft SED should include at a minimum "(1) a brief description of the proposed project; (2) an identification of any significant or potentially significant adverse environmental impacts of the proposed project; (3) an analysis of reasonable alternatives to the project and mitigation measures to avoid or reduce any significant or potentially significant adverse environmental impacts; and (4) an environmental analysis of the reasonably foreseeable methods of compliance...." [Footnote 25 Id. at § 3777, subd. (b).] While the State Water Board's regulations set the exclusive procedural requirements for the draft SED, the State Water Board must nonetheless comply with the substantive requirements of CEQA, and each of the draft SED elements as set forth in the State Water Board's regulations must be consistent with the requirements of the CEQA Guidelines. As discussed below, the Draft Staff Report does not meet these required standards.	raise specific economic effects of the project. To the extent that this comment summarizes other comments, please see the substantive responses to those comments.
311	35	The Draft Staff Report Does Not Include a Project Description Which Allows for a Meaningful Evaluation of the Impacts and Alternatives of the Action the State Water Board is Proposing Both the CEQA Guidelines and the State Water Board's CEQA regulations require the Draft Staff Report to include an accurate project description. The project description must include a clearly written statement of the objectives of the proposed project, and a general description of the project's technical, economic, and environmental characteristics. "[A]n accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR." [Footnote 26 County of	Section 7.1, Introduction, Project Description, and Approach to Environmental Analysis, of the 2023 draft Staff Report provides a basic project description, and refers to Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, for a detailed description and discussion of the proposed Plan amendments. Significant or potentially significant adverse environmental impacts are adequately discussed in Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems, of the 2023 draft Staff Report. Please see Common Response 7.1, General CEQA and Approach to the Analysis, regarding the adequacy of the project description and the approach to the analyses.

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		Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 186, 193.] It is the starting place of an EIR, describing what the lead agency proposes to carry out or approve, so that environmental analysis of that specific project’s potentially significant environmental effects and alternatives to mitigate potential impacts can be conducted. As the Court of Appeal explained in the 1977 County of Inyo decision, “only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal’s benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the ‘no project’ alternative) and weigh other alternatives in the balance.” [Footnote 27 Ibid.] A “curtailed, enigmatic or unstable project description draws a red herring across the path of public input.” [Footnote 28 Id. at 198.] More importantly, a project description that gives conflicting signals to decision-makers and the public about the nature of a project is fundamentally inadequate and misleading. [Footnote 29 San Joaquin Raptor Rescue v. County of Merced (2007) 149 Cal.App.4th 645, 656.] In Chapters 5 and 7, and scattered elsewhere throughout the Staff Report, there is an attempt to describe the project under review. The project is defined, in effect, as a set of proposed changes to the Bay-Delta Plan, but the Draft Staff Report does not describe how the changes would be implemented, or even, beyond labeling the “default” scenario, what the changes will be.	Section 5.4, Proposed New and Modified Objectives and Implementation, of the 2023 draft Staff Report adequately describes the objectives and implementation of the proposed Plan amendments. In addition, the project is revised as described in Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments.
311	36	The Program of Implementation is Inadequately Defined. The last major update of the existing Bay-Delta Plan’s flow objectives for the protection of fish and wildlife in the Sacramento River watershed and Delta occurred in 1995, and was implemented through D-1641. [Footnote 30: Draft Staff Report, p. 5-3.] As part of the current process, it appears that changes to that existing program of implementation will be made. [Footnote 31: Ibid.] As the Draft Staff Report explains, the specific textual changes to the program of implementation “has not yet been developed.” [Footnote 32: Id. at p. 5-1.] Because that text does not exist, the public cannot meaningfully comment on	The 2023 draft Staff Report included a detailed description of the proposed contents of the program of implementation in sufficient detail for the purposes of the analysis. For example, Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, and Chapter 9, Proposed Voluntary Agreements, of the 2023 draft Staff Report described proposed contents of the program of implementation. However, drafts of the Bay-Delta Plan were subsequently released for public review and comment in October 2024, July 2025, and December 2025. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information.

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		it. If proposed changes to the program of implementation are part of the project then the project is, in effect, a limited proposal, describing only portions of the proposed action. Without a clearly defined CEQA project, we cannot know if the program of implementation is part of the project or not; and its absence from the Draft Staff Report is another example of an inadequately defined project. If the program of implementation is not part of the project, then it begs the question, what is it? For this reason alone, the Draft Staff Report is fatally flawed. The State Water Board must revise the Draft Staff Report and define exactly what the project is (i.e., how will the Bay- Delta Plan change, and how will those changes be implemented) before proceeding to assess the potentially significant environmental impacts of that project.	
311	37	The Narrative Cold Water Habitat Objective is Inadequately Defined. The proposed cold water habitat objective is a vague narrative objective requiring the maintenance of “streamflows and reservoir storage conditions in the 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.” In Section 5.4.3.3, the Draft Staff Report states that “the owners and operators of rim reservoirs would be responsible for undertaking actions to comply with the narrative objective through voluntary or default processes.” Section 5.4.3.3 of the Draft Staff Report includes as one of the proposed Plan amendments the imposition of a new cold water habitat objective, but it does not specify exactly what actions by owners and operators of rim dams would be expected to undertake. After describing the objective, the Draft Staff Report attempts to describe its implementation. [Footnote 33: Draft Staff Report, pp. 5-23 to 5-25.] The narrative cold water habitat objective is inadequately described, and it is unclear if it is part of the project. The description of implementation of the narrative cold water habitat objective is impermissibly vague and puts off the State Water Board’s development of the implementation, instead	The cold water habitat objectives and implementation were described in detail in Section 5.4, Proposed New and Modified Objectives and Implementation, of the 2023 draft Staff Report. Please see Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, regarding cold water habitat objectives. Significant or potentially significant adverse environmental impacts are adequately discussed in Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems, of the 2023 draft Staff Report, and Tables 7.1-2, 7.21-1, and 7.22-1 identify reasonable and feasible mitigation measures. Please see Common Response 7.1, General CEQA and Approach to the Analysis, regarding the approach to the analyses and mitigation measures.

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		relying on ambiguous statements such as that specific implementation measures “would depend on the circumstances in individual tributaries,” [Footnote 34: Id. at p. 5-23.] and that operators of rim reservoirs “would” be required to conduct assessments. [Footnote 35: Ibid.] Nothing is defined with any specificity, leaving the public to guess about implementation. By leaving key matters to some future time, the document does not serve its informational purposes under CEQA regarding the State Water Board’s next steps for implementation. It not only makes it impossible for the public to discern exactly what it is the State Water Board is proposing, it results in inadequate analysis of the potentially significant environmental impacts of that action, because the action has not yet been defined, and omits how to mitigate any such impacts.	
311	38	The “Voluntary Implementation” Pathway Is Poorly Defined and Does Not Represent True Mitigation of Significant Impacts. Section 5.4.2.4 describes implementation, including discussion of a “Voluntary Implementation Pathway” wherein water users would have the opportunity to develop and implement “voluntary implementation plans” for complying with the inflow objective. There are numerous issues with this concept and how it is applied in the Draft Staff Report. First, it is unclear whether the Voluntary Implementation Pathway is part of the project description or meant to serve as mitigation. The discussion in Chapter 5 seems to imply that the Voluntary Implementation Pathway is an approach that the State Water Board might take to implement the proposed Plan amendments, which would result in different inflow requirements, suggesting that it is part of the project description. However, the Voluntary Implementation Pathway is also cited as part of the mitigation measures for numerous impacts, including impacts to Agricultural and Forest resources (MM-AG-a,e), Terrestrial Biological Resources (MM-TER- a), Aquatic Biological Resources (MM-AQUA-a,d), Energy (MM-EN-a-e), Hydrology and Water Quality-Groundwater (MM-GW-b), and Utilities and Service Systems (MM-UT-d). Whether it is meant to serve as part of the project description or	Voluntary implementation plans (now called local cooperative solutions) have been removed from the list of mitigation measures but are still provided for as a Plan element included in the program of implementation. As described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report, voluntary implementation plans (now referred to as local cooperative solutions) are the mechanism to utilize Plan flexibility in the form of adaptive implementation and are provided in part to mitigate water supply impacts if tailored solutions are available that are comparable or more protective for fish. These flexibilities are intended to allow water diverters and reservoir owner/operators to utilize these provisions because they often have a good understanding of the unique circumstances on a specific tributary. The authority for the Executive Director to utilize the flexibilities is provided for if water users are not engaged in proposing and implementing adaptive implementation and sensible adjustments can and should be made. The Executive Director authority is also provided to make clear that the State Water Board may require adjustments when approving adaptive implementation proposals that are generally good but need additional clarity to ensure fish protection. The default standards are provided and any discretion would occur within the bounds of the default standards. Please see Common Response 7.1, General CEQA and

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		as mitigation (under CEQA it cannot be both), the Voluntary Implementation Pathway is not clearly defined. Little detail is offered as to what the process or timeline would be for developing and accepting these plans, the level of flexibility that would be allowed, or who would be allowed to develop such plans. Many details are missing, such as what would happen if only some diverters on a tributary choose to participate, but not all. The document suggests that the percent of unimpaired flow could be managed as a volume or block of water on a seasonal basis, but there is no discussion of who would be making decisions on how to allocate this water, and there is no guarantee that the State Water Board would approve a particular Voluntary Implementation Plan or adaptive management measure. In addition, there is no recognition of the challenge inherent in this approach: the volume of the block of water would not be known until the end of the season, so operators would not know how much water they needed to release until it is potentially too late to do so. To the extent that the Voluntary Implementation Pathway is meant to serve as mitigation, it is insufficient for CEQA as it merely defers mitigation to a later date via an unclear process. There is no analysis to support the supposition that it would be possible to mitigate certain impacts via the Voluntary Implementation Pathway. In addition, while this approach offers some flexibility, it clearly sets the minimum flow at 45 percent. This would still result in severe impacts to EBMUD's water supply, disadvantaged communities, housing, groundwater sustainability, and green energy.	Approach to the Analysis, regarding general CEQA compliance, and the adequacy of the project description 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. The revised proposed Plan amendments include tributary-specific water supply adjustments for tributaries with majority municipal demands, including the Mokelumne River.
311	39	During the December 1, 2023 public hearing, the State Water Board suggested there will be “flexibility” for reservoir operators to shape the timing of releases made to meet the proposed new water quality objectives—even to defer some of the release until the fall if necessary. [Footnote 36: Comments of State Water Board during Sacramento/Delta Draft Staff Report Hearing held December 1, 2023.] But the Draft Staff Report’s description of the Voluntary Implementation Pathway does not necessarily allow such flexibility: “Seasonal inflows during the January-through-June period would	The default requirement as described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the Staff Report is 55 percent of unimpaired flow and the requirement could be increased to 65 percent of unimpaired flow. Thus, a requirement that 45 percent of unimpaired flow be provided during January-June would allow for the remaining 10-20 percent of unimpaired flow to be shaped outside that time period, provided it meets the flow shaping requirements. Please see Staff Report Chapter 13, Revised Proposed Plan Amendments, and Common Response 1.3, Revised Proposed

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		be required to be at least 45 percent to ensure that inflows are provided to achieve outflows during the critical winter and spring period for estuarine species. The total volume of water provided during this time and on an annual basis would be required to be at least equal to the volume of water that would be provided by tracking the required unimpaired flow percentage on a 7-day average.” [Footnote 37: Draft Staff Report, p. 5-20 (emphasis added).] The Draft Staff Report’s description of the Voluntary Implementation Pathway appears to continue to require the full volume of releases to occur during the winter and spring, which fails to protect against loss of cold water in the fall needed to support fish migration within the Mokelumne River. The Draft Staff Report also does not explain how it could be feasible to implement continuous tracking of a 7-day rolling average (to quantify the annual release volume) while simultaneously managing reservoir operations to mitigate temperature issues in real-time without complete foreknowledge of future hydrological conditions.	Plan Amendments, for information on local cooperative solutions (referred to as voluntary implementation plans in Chapter 5), the flow shaping adaptive implementation measures, and the implementation methodology. Also see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, regarding implementation of the cold water habitat objective.
311	40	The Project Objectives are Improperly Narrow and Constrain the Ability to Understand the Project and Proposed Alternatives. A project description must include a statement of the project objectives which can be used, among other things, to develop a reasonable range of alternatives and allow the public and decision-makers to understand the purpose of the project and make necessary findings. The project definition in the document appears to define the project as a proceeding to update the Bay-Delta Plan (Chapter 5) and/or the establishment of new water quality objectives, a program of implementation, and monitoring and study measures for protection of fish and wildlife beneficial uses (Chapter 7). However, the goals articulated in Section 7.1.3, focus almost exclusively on increasing flows for fish and wildlife, with an added goal for “voluntary and default pathways with flexibility” and a goal to “[p]rovide for and encourage collaboration, coordination, and integration of regulatory, scientific, and management processes related to the Sacramento/Delta.” The	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. See Common Response 7.24, Alternatives Analysis, for a discussion of the objectives of the proposed update to the Bay/Delta Plan.

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		goals are improperly tailored to eliminate some potential alternatives to the proposed unimpaired flow alternatives.	
311	41	The Project Baseline Is Not Clearly or Adequately Defined. CEQA requires a description of the environmental setting which will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant. (Cal. Code Regs., tit 14, § 15125(a).) An adequate baseline is central to conducting CEQA analysis, as it is the yardstick against which the proposed project's potentially significant project impacts are measured. The courts have underscored "the importance of an adequate baseline description, for without such a description, analysis of impacts, mitigation measures, and project alternatives becomes impossible." [Footnote 38: County of Amador v. El Dorado County Water Agency (1999) 76 Cal.App.4th 931, 953.] The Draft Staff Report's description of the baseline used in its analysis of impacts and benefits is ambiguous, internally inconsistent, and confusing. Section 6.2.1 of the Draft Staff Report is titled "Baseline Assumptions," and summarizes several regulatory requirements that apply to the CVP and the State Water Project (SWP), including the 2008 USFWS Biological Opinion (BiOp); 2019 Long-Term Operations Proposed Action (LTO PA); the 2020 CDFW Incidental Take Permit (ITP); the 2009 National Marine Fisheries Service (NMFS) BiOp; and the 2019 BiOps. [Footnote 39: Draft Staff Report, pp. 6-4 to 6-5.] But it is not clear whether these listed requirements are part of the baseline, because, immediately following this list of several regulatory requirements, the Draft Staff Report states: "The baseline from which impacts and benefits are measured for this project represents how the SWP and CVP have been operating in recent years and how they will likely continue to operate absent any updates to the Water Quality Control Plan. Table 6.2-1 list the specific requirements included in the baseline model simulation."	As the commenter notes, a description of the major regulations assumed in the modeling baseline are described in Section 6.2.1, Baseline Assumptions, of the draft Staff Report. Rather than conflicting information, the text on pages 6-4 and 6-5 provide details and context for the baseline assumptions listed in Table 6.2-1. Section 7.1.5.2, Baseline, Evaluation Approach, and Modeling Tools, describes the baseline, evaluation approach and modeling tools that inform the CEQA analysis. The environmental analyses utilize a quantitative and qualitative approach to compare the potential impacts to baseline conditions. For the quantitative evaluation, the Sacramento Water Allocation Model (SacWAM) is used to simulate changes in hydrology and water supply that could result from the project. Appendix A1, Sacramento Water Allocation Model Methods and Results, presents additional information and provides detailed tables and figures of model results that are summarized in Chapter 6, Changes in Hydrology and Water Supply. Model results for the proposed VAs are summarized in Chapter 9, Proposed Voluntary Agreements, and detailed methods and results are presented in Appendix G4a, Sacramento Water Allocation Model Methods and Results for the Proposed Voluntary Agreements. For some environmental resource topics, SacWAM results are used directly to quantitatively evaluate potential environmental impacts. In addition to SacWAM, other modeling and technical analyses are utilized to evaluate the environmental impacts and economic effects of the project, including the models and analyses listed in Table 7.1-1. Each of these models has its own set of modeling assumptions and inputs. Additional discussion of modeling and technical analyses used to evaluate the environmental impacts of the project is presented in relevant chapters and sections of this draft Staff Report. For qualitative analyses, baseline conditions are generally defined by the conditions present at the time the NOP was issued, or current conditions. Establishment and analysis of baseline conditions may be constrained in some instances by

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		Table 6.2-1, in turn, lists only three items in its baseline “Regulation” column: - State Water Board D-1641; - 2019 Biological Opinions; and - 2020 Incidental Take Permit. [Footnote 40: Id. at p. 6-6.] In other words, Table 6.2-1 excludes some of the very regulatory requirements listed on pages 6- 4 to 6-5. It is unclear which regulatory requirements and operating parameters comprise the baseline. Is it the regulatory requirements discussed on pages 6-4 to 6-5 of the Draft Staff Report, or the three regulatory requirements listed in Table 6.2.1? Without a clear definition of the baseline, it is impossible for the public to assess the Draft Staff Report’s analysis of impacts, mitigation measures, and project alternatives.	data availability; in these instances, the most current readily available information is used. Other analyses consider the relevance of changes in information that may have occurred since the issuance of the 2012 NOP, where appropriate.
311	42	The Water Quality Objectives Identified As Part of the “Proposed Plan Amendments” Will Cause Extremely Significant Impacts Which the Draft Staff Report Does Not Adequately Analyze or Mitigate. The Draft Staff Report describes a set of “proposed Plan amendments” that are the focus of the report and appear to have been decided on over five years ago. [Footnote 41: Chapter 5 of the Draft Staff Report states the proposed changes to the Bay-Delta Plan “were largely identified in the State Water Board July 2018 Framework for the Sacramento/Delta Update to the Bay-Delta Plan...” (Draft Staff Report, p. 5-1.)] The proposed Plan amendments include several objectives, including an inflow objective based on unimpaired flow, cold water habitat objectives, Delta outflow objectives, Suisun Marsh objectives, and interior Delta flow objectives. [Footnote 42: Id. at p. 5-3.] Summarized below are the proposed unimpaired flow objective and the cold-water habitat objective and the impacts to the Mokelumne and EBMUD.	To the extent that this comment summarizes other comments, please see the substantive responses to those comments. Please see the responses to comment 311-49 regarding impacts on fisheries, 311-70 regarding economic impacts, 311-71 regarding housing impacts, and 311-72 regarding impacts on disadvantaged communities in the East Bay. Also, please refer to Common Response 1.3, Revised Proposed Plan Amendments, for a discussion on the water quality objectives for fish and wildlife uses, and Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion the approach to the analysis and the adequacy of the mitigation measures.

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		Proposed Inflow Objective Based on Unimpaired Flow The proposed inflow objective would include a numeric standard setting a percentage of unimpaired flow that would have to be left in a tributary stream for environmental purposes. The unimpaired flow would be in a range of between 45–65%, with a proposed starting point of 55%. [Footnote 43: Id. at pp. 5-15–5-17.] The new unimpaired flow objective would be “integrated” with the cold water habitat protection and Delta outflow objectives. [Footnote 44: Id. at p. 5-15.] The impacts on the Mokelumne River and EBMUD that would be caused by the proposed unimpaired flow objective are numerous and significant. They include environmental impacts to the Mokelumne River fishery; economic impacts to the residents, businesses, and institutions of the East San Francisco Bay Area within EBMUD’s service area; impacts to housing in the East Bay; and social and economic impacts to the disadvantaged communities within EBMUD’s service area. These impacts, which are more fully described in Section VII and Section VIII, have not been adequately assessed or mitigated by the Draft Staff Report.	
311	43	Furthermore, the Draft Staff Report does not assess the impacts of the proposed unimpaired flow objective in combination with the proposed cold water habitat objective discussed below. That gap in the analysis of the combined, synergistic impacts that would result from both of those objectives being applied to the Mokelumne and EBMUD at the same time is a substantial omission from the Draft Staff Report. Because that analysis is not in the Draft Staff Report, the document cannot be used under CEQA as the environmental documentation for the State Water Board to impose both of those objectives on the Mokelumne River or EBMUD.	The Sacramento Water Allocation Model includes carryover storage requirements, thus cold water habitat objectives and unimpaired flow requirements were analyzed together. Please see 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 requirement. The cold water habitat objectives and unimpaired flows were described in detail in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report. In addition, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments.
311	44	Proposed Cold Water Habitat Objective The proposed cold water habitat objective is a vague narrative objective requiring the maintenance of “streamflows and reservoir storage conditions in Sacramento River/Delta tributaries to protect cold water habitat for sensitive native fish	Please see Common Response 1.3, Revised Proposed Plan Amendments, for responses to comments on the cold water habitat objective. The water supply impacts of the cold water habitat objective are fully evaluated in Chapters 6, Changes in Hydrology and Water Supply, and 7, Environmental Analysis, of the Staff Report.

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		species, including Chinook, salmon, steelhead, and other native cold water fish species.” [Footnote 45: Id. at p. 5-22.] The Draft Staff Report states that “the owners and operators of rim reservoirs would be responsible for undertaking actions to comply with the narrative objective through voluntary or default processes.” [Footnote 46: Ibid.] But the report does not specify exactly what these responsive actions would be. It instead defers the actions, stating that reservoir owners/operators would need to develop a long-term strategy for implementing feasible measures to improve the protection of cold-water habitat. [Footnote 47: Id. at p. 5-23.] Moreover, the Draft Staff Report fails to address how the cold water habitat objective will exacerbate the severe water supply impacts of the unimpaired flow objective. For further comments on this flawed objective, see Section VII.B.	
311	45	There Is No Substantial Evidence to Support the Draft Staff Report’s Stated Reasons for the Proposed Plan Amendments, With Respect to the Mokelumne River. In Section 5.3 of the Draft Staff Report entitled “Reason for the Proposed Plan Amendments,” the State Water Board sets forth its rationale for the proposed Plan amendments. Notably, several of those stated reasons are simply incorrect as to the Mokelumne River, revealing a lack of substantial evidence for the amendments. We treat each separately below. Fish & Wildlife Protections The Draft Staff Report states that “a number of tributaries do not have requirements to protect fish and wildlife or have minimal requirements.” [Footnote 48: Id. at pp. 5-7 to 5-8.] This is simply incorrect as to the Mokelumne River. As discussed above and in text in the Draft Staff Report, in D-1641 the State Water Board expressly approved new fishery flow requirements for the Mokelumne River, establishing a requirement for EBMUD to release the JSA flows as a condition of its water rights. As part of that decision, the State Water Board found that the JSA would provide additional flows to the Delta and that it would not be in the public interest to require more water from the Mokelumne River system than would be provided under the JSA.	In the Staff Report Chapter 2, Hydrology and Water Supply, the Mokelumne River is analyzed under the current Joint Settlement Agreement terms. The Mokelumne River is one of the few tributaries in the plan area with current streamflow requirements to protect fish and wildlife. However, as discussed in the Staff Report, the water quality objectives and implementation measures in the Bay-Delta Plan need to be updated for the current environmental setting, in which native fish species populations are declining throughout the watershed. In addition, as described in Section 5.4.2.2, Basis for New Inflow Objective, new tributary inflow requirements are needed to provide higher Delta outflows for estuarine and anadromous species. Thus, the rationale for requiring increased flows on the Mokelumne River is both to improve fish and wildlife conditions on the Mokelumne River as well as to contribute to Delta outflows to improve Delta conditions. Please see Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, of the Staff Report for a discussion of the benefits of increased tributary flows. See also Common Response 1.2, Water Quality Control Planning Process. 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

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		The JSA contains a comprehensive set of flow and non-flow habitat measures to enhance the fishery ecosystem, and thus, on the Mokelumne River, there is a full suite of requirements to protect fish and wildlife. In addition, as discussed in Section I above, the JSA works and has been successful. Thus, the draft Staff Report's stated rationale for the proposed Plan amendments – that some tributaries lack “requirements to protect fish and wildlife” or have minimal requirements – is simply not true for the Mokelumne River; the rationale fails as a basis for the amendments on the Mokelumne.	implementation 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 eight year term with the possibility of extension that reduces the required flow contributions from the Mokelumne River.
311	46	Meeting Minimum Objectives During Drought The Draft Staff Report states that during recent droughts, “the current minimal objectives were not met....” [Footnote 49: Id. at p. 5-8.] While it is not clear precisely which objectives are being referenced, it is important to recognize that since the adoption of D-1641 which requires EBMUD to release the JSA flows, EBMUD has met those flow requirements. EBMUD has never filed temporary urgency change petitions with the State Water Board seeking relief from D-1641 requirements, as other diverters have done. Instead, EBMUD continued to meet its D-1641 obligations, even during droughts. Thus, the lack of meeting D-1641 Bay-Delta requirements is not true as to the Mokelumne River and should not be cited as a reason for changing the current flow requirements for the Mokelumne River.	The discussion on this page of the 2023 draft Staff Report does not specifically reference the Mokelumne River. The discussion references multiple justifications for amending the current flow requirements. Please see the response to comment 311-45.
311	47	Instream Flow Requirements on the Eastside Tributaries In describing D-1641's assignment of responsibility to DWR and Reclamation, the Draft Staff Report erroneously states, “There are currently no other instream flow requirements for the Sacramento River basin and Delta eastside tributaries in the Bay-Delta plan.” [Footnote 50: Id. at p. 5-13.] This is untrue for the Mokelumne River. In D-1641, the State Water Board not only approved the JSA flows as EBMUD's full share responsibility for meeting the Bay-Delta Plan, it amended EBMUD's water rights by including detailed tables setting forth the required fishery flow releases. Thus, there are current instream flow requirements for the Mokelumne River, and the Draft Staff Report's stated rationale for the proposed Plan amendments is not an	The sentence in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the Staff Report that is referenced by the commenter is accurate because the 2018 Bay-Delta Plan does not contain specific instream flow requirements that apply to the Mokelumne River. The next paragraph in Chapter 5 of the 2023 draft Staff Report provides information regarding existing flow requirements on the Mokelumne River from State Water Board Water Right Decision 1641. The discussion references multiple justifications for amending the current flow requirements. Please see the response to comment 311-45.

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		appropriate reason for action on the Mokelumne River. The fact that the Draft Staff Report includes these generalizations and inaccurate statements reveals the lack of substantial evidence underpinning the purported need for the proposed Plan amendments on the Mokelumne River.	
311	48	The Draft Staff Report Does Not Adequately Analyze Fisheries and Temperature Management Impacts of the Proposed Plan Amendments. The Unimpaired Flow Objective Will Substantially Impact The Mokelumne River Salmonid Fishery By Reducing The Supply Of Cold Water Available For Fish Needs. Salmonids must have cold water to survive. The most temperature-sensitive life stage is egg incubation. For Chinook salmon, this occurs in the fall, which is a challenging season to release sufficient cold water to spawning areas because inflow and stored water has warmed during the summer. EBMUD carefully manages its reservoir operations to ensure cold water will be available to the fish when they need it the most in the fall to support incubation success. Cold winter and spring runoff flows into the Delta, and a portion is reserved in reservoir storage and released later in the year to attract and support spawning adult fish and egg survival. EBMUD releases cold stored water to attract returning fish and ensure the temperature conditions will be favorable for egg survival. When temperatures are too warm, eggs experience higher mortality, leaving less offspring in the river to support the next generation of returning adults. The sustained and notable success of the Mokelumne River salmonid fishery is due, in large measure, to EBMUD's ability to provide cold water by expertly and flexibly leveraging its reservoir operations. In short, the Mokelumne River as it exists today is a model of successful temperature management. Unfortunately, the proposed unimpaired flow objective will significantly and adversely impact EBMUD's ability to continue providing sufficient cold water for fish in the critical transition from fall to winter conditions during fall run chinook spawning	Please see the response to comment 311-2 for more information regarding implementation of the cold water habitat objective.

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		season. D-1641 expresses the core concern in its discussion of the Mokelumne River: “Excessive releases for fish at sometimes could result in releases of water that is too warm for fish at other times.” [Footnote 51: D-1641, § 8.1.3, p. 63 [concluding that it therefore “would not be in the public interest to require more water from the Mokelumne River system than will be provided under the JSA”].] This is true because EBMUD generally fills its reservoirs in the spring when inflows are at their coldest. If the proposed unimpaired flow objective is implemented on the Mokelumne River, EBMUD would need to release or bypass more of that cold inflow than it currently does to meet the objective. The expected result is a decrease in the volume of cold water stored in EBMUD’s reservoirs in the summer and fall, an impact the Draft Staff Report describes: “The analysis of temperature-related effects in Sacramento River watershed regulated tributaries other than the Sacramento, American, and Feather Rivers relied on a qualitative interpretation of SacWAM reservoir storage and flow results. The qualitative analysis used the basic assumption that increases in flow and/or reservoir storage will cause a reduction in water temperatures at or downstream of the location. Results indicate that some reservoirs could experience reductions in carryover storage. Some reservoirs (e.g., ... Camanche Reservoir on the Mokelumne River) show end-of-September carryover storage that decreases from baseline under most storage conditions and all flow scenarios. Reduced carryover storage could lead to lower flows during fall months. Reductions in flows and carryover storage could reduce cold water habitat and affect special-status fish species in the reaches below these reservoirs.” [Emphasis added.] [Footnote 52: Draft Staff Report, p. 7.6.2-88.] The Draft Staff Report accurately states that, “ecause the potential exists that in some instances on some streams temperatures could increase, changes in water temperatures could affect native fish species; this impact would be potentially significant.” [Footnote 53: Draft Staff Report, p. 7.6.2-93.] The Draft Staff Report correctly concluded that its proposed unimpaired flow objective will harm the native fish which rely on Mokelumne River habitat. That harm could cause serious harm to California’s salmon fishing industry because the Mokelumne	

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		River fishery consistently provides a large proportion of the salmon catch off the California coast, nearly half in recent years. [Footnote 54: The outsized contribution of the Mokelumne fishery to California's commercial and recreational salmon fishing industries is discussed in Section I.B.3.b.]	
311	49	The Proposed Cold Water Habitat Objective is Infeasible and Would Not Mitigate the Temperature Impacts to the Mokelumne River Fishery, While Also Worsening the Water Supply Impacts of the Unimpaired Flow Objective. CEQA requires the Draft Staff Report to describe feasible measures to mitigate the significant temperature impact. [Footnote 55: CEQA Guidelines, § 15126.4, subd. (a) [EIR shall describe feasible measures which could minimize significant adverse impacts].] The Draft Staff Report proposes adopting a "cold water habitat" narrative water quality objective and claims such an objective might mitigate the temperature impact. [Footnote 56: Draft Staff Report, p. 7.6.2-93 ["Implementation of the cold water habitat objective would be expected to minimize potential temperature-related impacts on aquatic biological resources in the Sacramento/Delta watershed."]] It would not, for two reasons. First, the cold water habitat objective is poorly defined and infeasible to implement. Second, it could not substantially reduce the impact of the unimpaired flow objective on cold water availability, and the Draft Staff Report offers no substantial evidence to the contrary. In addition, the cold water habitat objective would severely exacerbate the municipal water supply impacts of the unimpaired flow objective. [Footnote 57: Section VII.B.3 and Section VIII discuss the unacceptably severe municipal water supply impacts of the proposed unimpaired flow objective, and the cascading related significant impacts that would result from the lost water supply.] The following sections of this letter discuss in greater detail the unacceptably severe municipal water supply impacts of the proposed unimpaired flow objective, and the cascading related significant impacts that would result from the lost water supply.	Cold water habitat implementation has been removed from the list of mitigation measures but is still provided for as a Plan element. The cold water habitat objectives and unimpaired flows were described in detail in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report. The cold water habitat objective is proposed as a narrative objective because specific implementation would depend on the circumstances in individual tributaries, including structural, operational, and hydrological characteristics. The numeric inflow requirements are to be implemented in a coordinated fashion with the cold water habitat that could include a variety of different measures depending on the circumstances of the individual tributary, including management of reservoir storage and release and associated temperature control devices, efforts to establish cold water refugia like riparian revegetation, passage above reservoirs or other impediments to allow access to cold water refugia, and other measures. 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. Please see Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, regarding the cold water habitat objective role in the proposed Plan amendments. Also see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, regarding measures for full implementation of the cold water habitat objective and impacts associated with implementation of the objective.
311	50	The Draft Staff Report Did Not Identify Any Feasible Means to Implement the Proposed Cold Water Habitat Objective. The Draft Staff Report does not adequately explain what the cold	Please refer to the response to comment 311-49. Because temperature requirements depend on the species of salmonid, the life stage, and other factors and because temperature management actions depend on the specific circumstances of

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		water habitat objective actually requires of any particular tributary or water user. It fails to identify any feasible means for water users to implement the objective, suggesting instead that it would be implemented through unspecified “voluntary or default processes” and deferring to water users to “develop a long-term strategy” in the future to identify feasible implementation measures. [Footnote 58: Draft Staff Report, p. 5-23. Similarly, the Mitigation Measure MM-AQUA-a,d lists “Temperature Control and Reservoir Management” as a mitigation measure for temperature impacts on aquatic special status species without describing, even generally, the nature of the control or management actions to be taken. (Id. at p. 1-51.)] What “default process” is proposed? What feasible steps could EBMUD or any water user take to protect cold water temperatures while also simultaneously releasing enough water (including cold winter and spring flows) to meet the January-June unimpaired flow requirement? The Draft Staff Report does not answer these questions because it has improperly deferred any substantive attempt to mitigate temperature impacts, leaving it instead to the affected water users to try to figure out a solution to the problem. This is a deferral of the description of a valid mitigation measure, contrary to CEQA. [Footnote 59: Sundstrom v. County of Mendocino (1988) 202 Cal.App.3d 296, 307.]	each tributary, a narrative objective is proposed. The cold water habitat objective would require that measures be implemented to provide cold water habitat for salmonids and other native cold water fish species on the Sacramento/Delta tributaries, including management of cold water storage and releases or alternate protective measures (including measures to install and operate temperature control devices, measures to provide for passage above dams, and other measures) to ensure that fish below dams are kept in good condition consistent with Fish and Game Code section 5937 and the narrative objective.
311	51	The Proposed Cold Water Habitat Objective Would Not Mitigate the Unimpaired Flow Objective’s Adverse Impact on Cold Water Availability for Mokelumne River Fish, and The Draft Staff Report Offers No Substantial Evidence to the Contrary. The Draft Staff Report identifies no feasible means for EBMUD to implement the proposed cold water habitat objective. The modeling the Draft Staff Report assumed the dam operators on various tributaries would implement the cold water objective by prioritizing maintaining specified volumes of carryover storage. [Footnote 60: Id. At Appx. A1, § A1.3, p. A1-10.] This choice of implementation approach appears to be based on the stated rationale that “[e]nd-of-September storage is a valuable indicator of the volume of cold water available throughout the critical temperature season of summer through early fall.” [Footnote 61: Ibid.] For the Mokelumne River specifically, the State Water	The cold water habitat objective is not a mitigation measure, but rather a water quality objective that is part of the revised proposed Plan amendments. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the cold water habitat objective. The carryover storage targets used in the draft Staff Report as a representation of the cold water habitat objective are described for each tributary in Appendix A1c, Preliminary Assessment of Effect of Reservoir Storage on Reservoir Release Temperature. The carryover storage target assumed for the Mokelumne River in SacWAM originated from communication with Ben Bray (EBMUD Professional Engineer) on February 15, 2018 (Bray pers. comm.). Additionally, please see Common Response 7.6.2, Aquatic

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		Board’s modeling assumed EBMUD would prioritize keeping 145 TAF of carryover storage in Camanche Reservoir, citing unspecified “[c]ommunications with EBMUD [s]taff” to justify the selected target. [Footnote 62: Id. At Appx. A1, p A1-11, Table A1-3 [specified by tributary].] The document does not cite any particular communications, and to the best of our knowledge EBMUD has never made any such communication. The purported “communications” therefore do not constitute substantial evidence of the sufficiency of 145 TAF carryover storage to avoid impact to the fishery. Furthermore, it is not feasible for EBMUD to maintain 145 TAF in Camanche Reservoir carryover storage while also complying with any of the proposed unimpaired flow objectives, and even if it were feasible, it would be ineffective to mitigate the temperature impact. First, it is generally infeasible to concurrently increase both storage and flow. Reservoir releases are expected to increase as a result of the unimpaired flow objective. An increase in reservoir releases would be associated with either an increase in reservoir bypass flow (in which case there would be no change in storage) or a decrease in storage. Therefore, under most hydrological conditions, both objectives cannot be met at the same time, unless unacceptably severe water supply cutbacks to EBMUD’s customers are made. [Footnote 63: The only notable exception where storage and flow objectives could be met without compromising municipal supplies would be short-term flood flow regulation in winter when temperature management is typically not a concern.] Second, an increase in storage does not necessarily result in an increase in stored cold water. The volume and timing of the releases under unimpaired flow scenarios demonstrates that carryover storage targets would not be an effective strategy to limit temperature impacts to the fishery but would instead result in reservoirs with depleted cold-water pools and, therefore, elevated release temperatures. The volume of water available in storage at any given time that is “cold” bears a relationship to the temperature of water at the time it was first diverted to storage. If additional water is maintained in storage, but that water was	Biological Resources and Cold Water Habitat, for responses to comments that raise issues with the modeling and implementation of the cold water habitat objective and development and refinement of carryover storage target ranges.

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		relatively warmer when it was first stored because of the timing of the diversion, the outcome is a fuller reservoir which holds relatively warmer water. It is foreseeable this scenario will occur in Camanche Reservoir if EBMUD attempts to maintain a carryover storage target while also meeting the unimpaired flow obligation. To meet unimpaired flow, EBMUD will need to bypass or release more cold water between January and June; this is cold water that EBMUD would otherwise store to manage reservoir temperature and create a cold water supply for fishery releases in the warmer months. Compounding this harm, more of the water EBMUD does manage to store will be stored later in the year, and therefore will be warmer. As the Draft Staff Report recognizes, reservoir operations would be “increasingly constrained under the modeled scenarios because new instream flow requirements limit the ability to store water in spring.” [Footnote 64: Draft Staff Report, p. 6-37.] The first half of Spring inflows are cold. Without them, the reservoir’s cold water pool will diminish over time. Stated another way, even if one were to assume that 145 TAF is enough carryover storage to ensure adequate cold water pool under EBMUD’s existing “real-world” operations (which EBMUD has never said) that does not mean it is equally true that 145 TAF would be sufficient if EBMUD must implement the proposed unimpaired flow objective at the same time. Third, the water EBMUD would release to meet the unimpaired flow standard is likely to be disproportionately comprised of comparatively cold water. Camanche Dam is constructed such that released water originates from near the bottom of the reservoir, which is where colder water is found. EBMUD cannot release more water from Camanche without releasing more cold water. Given the inevitable loss of cold water, Camanche Reservoir would become relatively warmer than under existing conditions, regardless of any carryover target which might be employed in a misguided attempt to manage temperature. Fourth, a carryover storage target would not merely be ineffective to implement the cold water habitat objective, it would also be essentially redundant with existing regulatory requirements established by the JSA which are designed to promote cold water availability. Moreover, the use of an end-of-	

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		September target (as the Draft Staff Report proposes) would be less effective than the JSA's requirements because it is applied earlier in the spawning season (end-of-September versus end-of-October in the case of the JSA), and because the target is an indirect measure of cold water (i.e., total reservoir storage) rather than an explicit definition of the hypolimnion or cold-water pool in the JSA. [Footnote 65: See "Lower Mokelumne River Project Water Quality and Resource Management Program," p. 4. This document is part of Exhibit G.]	
311	52	EBMUD has made every reasonable effort to assist State Water Board staff in understanding and addressing temperature management impacts arising from the proposed unimpaired flow alternatives, but the Draft Staff Report does not reflect EBMUD's input on these issues. Over the course of several meetings, discussions, and workshops significant information was provided to State Water Board staff to explain, among other facts, that (1) cold water resources are already a limiting factor in most years under existing regulatory constraints, (2) imposing additional required releases would result in further reductions to the cold-water volume and increase the likelihood that existing regulatory criteria could not be met in the future, (3) if newly required releases exceed the volume of cold-water runoff to EBMUD's reservoirs, a minimum carryover storage would be ineffective to prevent significant temperature increases in fall during fall run chinook spawning and would likely result in an increase in mortality to the fishery and (4) reducing diversions from Pardee Reservoir into the Mokelumne Aqueducts in favor of prioritizing water for carryover storage in Camanche Reservoir would, counterproductively, increase overall water temperature in the Mokelumne Reservoir system. Furthermore, EBMUD Staff and representatives from other tributaries offered to work with State Water Board staff and make available the respective temperature modeling experts to work with State Water Board staff to perform quantitative modeling in support of the WQCP Update. State Water Board staff did not respond to this offer. The Draft Staff Report does not describe any feasible means to implement the proposed cold water habitat objective or any other workable measures to mitigate the temperature impact.	Please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, regarding implementation of the cold water habitat objective and flexibility included in the revised proposed Plan amendments related to long-term temperature management strategy and refinement of the carryover storage target ranges. Also, 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 to reduce water supply impacts and allow more water to be stored in reservoirs on initial implementation. 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 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.

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311	53	The Proposed Cold Water Habitat Objective Will Substantially Increase the Severity of the Significant Municipal Water Supply Impacts in the East Bay Area that Unimpaired Flow Objective Implementation Will Cause. Section VIII.A below discusses how an unimpaired flow objective would cause severe, pervasive, and unacceptable impacts to the East Bay's water supplies. The cold water habitat objective will severely exacerbate the negative water supply impacts of the unimpaired flow objective, if the two objectives are implemented together. As discussed above, the only means of implementing the cold water habitat objective identified in the Draft Staff Report is to maintain a defined carryover storage target, which would further impact the East Bay water supply than the unimpaired flow objective alone. In the absence of a carryover storage target, EBMUD could draw down storage to extremely low levels to supply as much of its customers' water demand as it reasonably can, while also making the increased releases necessary to meet the unimpaired flow objective. Persistently drawing down storage in such a manner is not sound water management and would decrease water supply reliability and harm the Mokelumne River fishery, but it could be done as a necessary "last resort" to minimize the extent of perennial and crippling water shortages in the East Bay. However, adding a carryover storage target removes that "last resort" option. An elevated minimum carryover target, coupled with an unimpaired flow release obligation, would leave EBMUD no choice but to impose drastic and unprecedented cuts to the East Bay, year after year. We know this because the Draft Staff Report's modeling confirms the extent of the water supply impact, as the next section discusses.	Please see the response to comment 311-9.
311	54	The Draft Staff Report Does Not Adequately Identify or Analyze the Severe Water Supply Impacts Expected to Result from the Proposed Plan Amendments. The Proposed Plan Amendment would impose extreme, unacceptable water shortages on EBMUD, and there have been no feasible measures put forward to mitigate these impacts. The Low Flow and High Flow alternatives would also result in	Please see the response to comment 311-9.

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		unacceptable shortages. The Draft Staff Report does not acknowledge the severe and pervasive water supply impacts or their ripple effects on housing, affordability, or other issues, nor does it identify any feasible mitigation.	
311	55	Implementation of the Unimpaired Flow Objective Will Cause Severe and Pervasive Water Supply Shortages in the East Bay Region. EBMUD provides water for 1.4 million customers, and EBMUD's 2020 Urban Water Management Plan (UWMP) estimated its average annual demand at 234 million gallons per day (MGD); of this, about 48 MGD is made up by water conservation and 5 MGD by recycled water, leaving a planning level of demand of 181 MGD. The 2020 UWMP estimated the 2050 planning level of demand at 218 MGD. Approximately 90 percent of EBMUD's water supply comes from the Mokelumne River. During droughts, EBMUD can take water supplies from the Sacramento River via its Freeport Facilities; this can include allocations from the CVP (because EBMUD has a contract to purchase CVP water in dry years only) or water transfers purchased from sellers on the Sacramento or American Rivers, if such transfers are available. (It is not always possible to obtain transfer water, particularly in times of severe water shortage during drought or, if the proposed Plan amendments are imposed, in a regulatory-imposed water shortage where many buyers are scrambling to obtain water from sellers with less water to sell.) EBMUD's Board of Directors has adopted a goal of trying to limit rationing during droughts to 15 percent. EBMUD's historic investments in water recycling, conservation, and development of supplemental supplies help it to achieve this goal. During dry years, EBMUD's Drought Management Program guidelines provide recommendations on the corresponding drought stage and response actions including rationing, purchase of supplemental supplies, and imposition of new regulations and penalties. The most recent drought provides an example of how EBMUD	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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		responds to shortages. In 2021, EBMUD declared a Stage 1 drought, established a voluntary rationing goal of 10 percent, and declared the need to purchase CVP supplies. As drought conditions worsened, in April 2022, EBMUD declared a water shortage emergency and increased the drought level to Stage 2, set a mandatory, District-wide rationing target of 10 percent, authorized additional water purchases, and adopted emergency water use restrictions. At Stage 2, the Excessive Water Use Penalty Ordinance also went into effect. Through a combination of long-term conservation, regulations, and the purchase of supplemental supplies, EBMUD was able to keep customer rationing below 15 percent.	
311	56	The percent of unimpaired flow alternatives would cause a persistent inability to meet demands. EBMUD's review of the SacWAM model results in the Draft Staff Report shows sustained, high levels of rationing resulting from the imposition of unimpaired flow. In the following charts, EBMUD used the SacWAM data to compare modeled annual deliveries against demand to develop rationing levels. Figure 3 [Exhibit 3] shows an annual rationing level at 35 percent unimpaired flow, based on the Draft Staff Report modeling. Even under this "low flow" alternative, there is rationing of at least 10 percent in 77 of 94 years and rationing of over 25 percent in 35 years. There are also several multi-year periods of cutbacks greater than 20 percent. The maximum reduction is 63 percent. Figure 4 [Exhibit 4] shows the results for the 45% unimpaired flow. There are 56 out of 94 years with rationing greater than 25 percent, 21 years with rationing greater than 50 percent, and a maximum level of 68 percent. Figure 5 [Exhibit 5] shows the results for the 55 percent unimpaired flow included in the proposed Plan Amendments. There is rationing greater than 25 percent in 90 out of 94 years, rationing greater than 50 percent in 45 years, and a maximum rationing of 88 percent. Figure 6 [Exhibit 6] shows the annual rationing under 65 percent	Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for a discussion on municipal water supply economic effects. 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 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 allow reservoir owner/operators, as part of their development of long-term temperature management strategies, to propose carryover storage levels within an appropriate range tailored to each reservoir, with lower requirements during drought years. 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 to 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. See also Common Response 7.6.2, Aquatic Biological Resources

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		unimpaired flow. There is rationing over 25 percent in almost all years, rationing over 50 percent in 76 out of 94 years, and the maximum rationing is 84 percent. The Draft Staff Report acknowledges how high the levels of rationing would be. Section 6.6.2.4 of the Draft Staff Report says that 55 percent unimpaired flow would result in annual average reductions in supply of 45 percent through the Mokelumne Aqueducts to EBMUD. Section 7.20 further acknowledges, “agencies that rely solely or almost solely on Sacramento/Delta water and have limited water supply portfolios, and agencies that already have demand that outpaces supply could experience impacts with reductions in the Sacramento/ Delta supply. Consecutive dry years and extended droughts could further stress agencies and affect even providers with multiple sources of supply and reserves. Moreover, for some entities, notably in DACs, acquisition or development of new supplies may be fiscally infeasible. Households in these places may be subject to water shortages and higher costs. These impacts would be potentially significant.” [Footnote 66: Draft Staff Report, pp. 7.20-45 to 7.20-46.] The Draft Staff Report offers little to no true mitigation for these potentially significant impacts. Some of the severity of these cutbacks is due to the imposition of a carryover storage target, meant to mitigate temperature impacts, that restricts how much water is delivered to EBMUD by the model. As discussed above, this target oversimplifies the challenges of temperature management and would not be sufficient mitigation for temperature and associated fishery impacts. It would also cause significant and unacceptable redirected impacts. Even without the imposition of a carryover storage target, the unimpaired flow alternatives would result in significant, unacceptable shortages in EBMUD’s water supply.	and Cold Water Habitat, regarding carryover storage targets and implementation of the cold water habitat objective.
311	57	[Exhibit 3: Graph titled Figure 3. Annual rationing levels under 35% unimpaired flow]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of

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			the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
311	58	[Exhibit 4: Graph titled Figure 4. Annual rationing under 45% unimpaired flow]	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.
311	59	[Exhibit 5: Graph titled Figure 5. Annual rationing under 55% unimpaired flow]	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.
311	60	[Exhibit 6: Graph titled Figure 6. Annual rationing under 65 percent unimpaired flow]	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.
311	61	The Draft Staff Report's Assumption That It Is Reasonably Foreseeable That EBMUD Could Procure Sufficient Replacement Water Supplies as a Method of Compliance is Not Supported by Substantial Evidence The severe water supply shortages that would be caused by the proposed Plan amendments, Low Flow Alternative, or High Flow Alternative will cause significant impacts that the Draft Staff Report has not adequately assessed or made any evidence-supported effort to mitigate. Instead, it offers deferred mitigation or recommends that water suppliers develop "replacement" water supply portfolios to make up for the water taken by the proposed Plan amendments. This is contrary to law. Moreover, the purported mitigation supplies identified in the Draft Staff Report are not feasible for EBMUD to obtain.	Please see the response to comment 311-9. 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. 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 Board's CEQA obligations are not to compensate those who might be affected by the changes in Sacramento/Delta water supply. Section 7.20, Utilities and Service Systems, concludes that some service providers could experience reductions in water supply and that the effect on municipal water suppliers could be significant even if proposed response actions to augment or replace water supply are implemented. Please see Common Response 8.1, Economic Analysis and Other Considerations, for information about feasibility of various water supply options.
311	62	Overview of the Draft Staff Report's Flawed Water Supply Mitigation Analysis The Draft Staff Report must analyze significant and potentially significant adverse environmental impacts, and mitigation measures to avoid or reduce any significant or potentially significant impacts and (1) reasonably foreseeable methods of	Please see Common Response 7.1, General CEQA and Approach to the Analysis, for the Staff Report approach to CEQA requirements. 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.

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		compliance; (2) reasonably foreseeable significant adverse environmental impacts associated with those methods of compliance. [Footnote 67: Cal. Code Regs., tit. 23, § 3777 sets forth what a State Water Board Substitute Environmental Document (SED) must consist of. According to the State Water Board, the Draft Staff Report is its SED for the immediate project. Thus, section 3777 is directly applicable here. It provides that: “The environmental analysis shall include, at a minimum, all of the following: 1. An identification of the reasonably foreseeable methods of compliance with the project; 2. An analysis of any reasonably foreseeable significant adverse environmental impacts associated with those methods of compliance; 3. An analysis of reasonably foreseeable alternative methods of compliance that would have less significant adverse environmental impacts; and 4. An analysis of reasonably foreseeable mitigation measures that would minimize any unavoidable significant adverse environmental impacts of the reasonably foreseeable methods of compliance.” Id. at subd. (b)(4).] The determination of reasonably foreseeable methods of compliance must be fact-based, and based on substantial evidence. [Footnote 68: Public Resources Code, § 21168.5 provides that under CEQA “[a]buse of discretion is established if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence.” (Emphasis added.)] For EBMUD to comply with the proposed Plan amendments, the Draft Staff Report assumes the availability to EBMUD of replacement water supplies to make up for the water taken through the implementation of the proposed Plan amendments. Yet the assumed replacement water supplies are not reasonably foreseeable, and there is no evidence to support the statements that water suppliers like EBMUD could respond by implementing any of the measures that are mentioned. Instead, the replacement water supplies mentioned in the document are based on faulty assumptions, and a fundamental misunderstanding of EBMUD’s planning documents and the challenges of supplying safe and affordable supplies in the EBMUD service area. As discussed below, the assumption that such water supplies will be available is grossly overstated.	Given the critical importance of municipal water supply, the Staff Report considers effects on and potential responses of water users to reduced municipal water supply. Section 7.20, Utilities and Service Systems, concludes that some service providers could experience reductions in water supply and that the effect on municipal water suppliers could be significant even if proposed response actions to augment or replace water supply are implemented. The Staff Report acknowledges that developing replacement water supplies may involve additional cost. Common Response 7.20, Utilities and Service Systems, further describes how the Staff Report considered availability of municipal water, alternative water supplies and feasibility of potential response actions to reduced surface water supply. Refer also to Common Response 8.1, Economic Analysis and Other Considerations for economic analysis and estimates of potential effects to municipal water providers.
311	63	Appendix D of the Draft Staff Report includes example water supply portfolios used to develop the costs in Chapter 8. The	Please see the response to comments 311-26 and 311-62.

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		example portfolios are based on projects listed in water supplier's 2015 and 2020 UWMPs. Using the projects listed in EBMUD's UWMP to formulate estimates on supplies and associated costs that could be used to offset a severe, unplanned shortage in supplies is problematic because the water supply projects identified in EBMUD's UWMPs are intended to address future demand based on the existing baseline assumptions about supply availability and demand increases in the service area. In the 2020 UWMP, EBMUD projects its demand out to the year 2050, uses hydrologic modeling to determine the water shortage under future demand conditions (i.e., the need for water), and then identifies a suite of projects that could be implemented to meet that need. In a sense, the projects in this portfolio cannot be used to address the additional water supply needs as a result of the unimpaired flow alternatives because they are necessary to meet planned future demands within the service area. Further, the proposed Plan amendments reduce the availability of these alternative sources. Storage projects may no longer be feasible to meet dry year needs because with shortages every year, there are never excess supplies available to store for supplemental drought supply. If the State Water Board implements a percent of unimpaired flow alternative, causing severe shortages that are not already part of EBMUD's planning, then additional sources of supply would be needed on top of those identified in the UWMP. Furthermore, it is highly questionable whether these additional supplies could be obtained.	Implementation of the proposed Plan amendments would reduce Sacramento/Delta water supplies at certain times and locations. 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. Because local responses to changes in water supply are unknown, the Staff Report relies on water supply portfolios of existing and planned water supply projects identified in UWMPs as a proxy for reasonably foreseeable response actions service providers may take. Municipal water suppliers may choose any approach, or a combination of approaches, or they may identify another as-yet unknown approach to meet their own unique needs. As explained in the section entitled Effects on Urban Water Suppliers, in Section 7.20.3, Impact Analysis, in developing UWMPs, municipal water providers are required to consider future conditions in their long-term water planning efforts. The UWMP water service reliability requires combined assessment of supplier's water uses and supplies under varying hydrological and development conditions, which include both short-term and long-term hydrological, regulatory, and development variables. The State Water Board identified the need to update the Bay-Delta Plan and its implementation many years ago. The 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 watershed. The State Water Board has long signaled that D-1641 is not adequate to protect fish and wildlife beneficial uses and that all water diverters may be required to help meet new water quality objectives in the watershed. The State Water Board recognizes that providing instream flows for the environment necessarily results in less water available for other uses. Providing balanced protection of all beneficial uses of water is incredibly important and requires careful consideration, and the State Water Board has been particularly sensitive to supply impacts to municipal use. Staff Report Chapter 12, Public Participation, summarizes the public participation activities that have occurred during the pre-scoping and scoping phase of the environmental review process for the Sacramento/Delta Update to the Bay-Delta Plan. The State Water Board has provided

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			several previous opportunities for interested parties to provide input on the Sacramento/Delta updates to the Bay-Delta Plan, including CEQA scoping opportunities in 2009 and 2012. Accordingly, it is reasonable to assume that UWMPs should have considered and planned for changes in Sacramento/Delta water supplies.
311	64	There Is a Lack of Substantial Evidence Supporting the Feasibility of Additional Water Conservation as a Feasible Replacement Water Supply for EBMUD. The lower bound portfolio assumes that water agencies could implement demand management measures to replace ten percent of annual average supply. For many agencies, including EBMUD, that have already invested significantly in water conservation, achieving additional reduction at this level may not be feasible, especially in a short time frame. Additionally, as described above, EBMUD's long term water supply planning already includes a high level of additional water conservation to meet expected demand in the service area. EBMUD has invested in demand management for over thirty years, spending approximately \$100 million on a variety of customer-facing programs. The result is a significant reduction in water use; since 1994, EBMUD has achieved 46 MGD of water conservation. EBMUD has already invested in many of the programs recommended in Chapter 8 and as such they are no longer available. For example, Chapter 8 identifies that, "residential water efficiency measures include high-efficiency toilets, showerheads, clothes washers, dishwashers, landscape conversions, and household leak repairs." [Footnote 69: Draft Staff Report, p. 8-38.] However, EBMUD already offered a toilet rebate for many years, and a study in 2016 found that market saturation of high efficiency toilets in EBMUD's service area had reached over 80 percent. EBMUD therefore allowed this program to sunset, given that there were so few inefficient toilets left to convert. EBMUD had similar experience with its efficient clothes washer rebate, which was also allowed to sunset in 2016. The success that EBMUD has had with these conservation investments means that it is more difficult and costly to achieve additional savings.	The environmental and economic analyses presented in the Staff Report do not assume that municipal water suppliers will adopt any specific strategies in response to the Sacramento/Delta update to the Bay-Delta Plan. The assumption that some water agencies may rely on demand management measures and use reserve supplies is paired with the other end of the spectrum where agencies would need to fully replace the reduction in the Sacramento/Delta water supply. The lower bound and the upper bound estimates capture a range that recognizes that different agencies may respond in different ways to changes in water supply. Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for a discussion of water supply replacement economics and feasibility, including water conservation. Also see Common Response 1.2, Water Quality Control Planning Process, for information on the State Water Board authorities related to the Water Quality Control Planning Process. The State Water Board prepared the Staff Report with a sufficient level of analysis to allow decision makers to make an informed decision and to allow members of the public to make informed comments. The Board made reasonable assumptions to disclose a full range of potential impacts and considerations. 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

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		Other agencies face similar challenges with expanding water conservation. There is already evidence that the State is experiencing demand hardening, wherein previous water efficiency programs have been relied on to reduce demand during droughts cannot be relied upon to obtain additional conservation savings. Mitigation Measure MM-UT-d also suggests that the “Making Conservation a California Way of Life” regulations could contribute to reducing demand for Sacramento/Delta water. EBMUD’s analysis shows that compliance with this new regulation would only result in a small reduction in overall demand, due in part to EBMUD’s existing investments in water conservation and loss. Moreover, this reduction in demand would not be sufficient to offset the lost supply. [Footnote 70: The recently released report from the Legislative Analyst’s Office criticizes the State Water Board’s “Making Conservation a California Way of Life” proposed regulations as overly burdensome, expensive, and not likely to result in more than “modest” water savings. See Petek, G., “Assessing Early Implementation of Urban Water Use Efficiency Requirements,” January 4, 2024, at pp. 25-26 [noting “the estimated amount of water saved would represent only a small fraction—about 1 percent—of the state’s current total water use.”], available at https://lao.ca.gov/Publications/Report/4823 (accessed January 17, 2024).] It should also be noted that the lower-bound cost estimates do not appear to include the costs involved in developing and implementing these conservation programs. There are costs for the utilities that run them, including payments of rebates to customers, purchase of efficient fixtures and devices for giveaways, contracts for advertising, outreach, and software services, and staff costs to administer programs and support customers. EBMUD has already invested heavily in water conservation, prioritizing projects based on their cost-effectiveness. As a	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 adequate, complete, and represent a good faith effort at full disclosure. (Id., § 15151.) 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 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 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. In Section 7.22, New or Modified Facilities, the Staff Report discusses potential environmental impacts resulting from actions entities may take to construct and operate alternative water supplies in response to reduced Sacramento/Delta water supplies, including mitigation measures. The Staff Report concludes that the environmental impacts associated with construction to modify or build new facilities and infrastructure and other projects in response to changes in water supply remain potentially significant. See also Common Response 6.3, Water Supply and Other Water Management Actions. Section 7.1, Introduction, Project Description, and Approach to Environmental Analysis, in the Staff Report discusses State Water Board CEQA requirements, reasonably foreseeable methods of compliance, and mitigation measures. As discussed in Section 7.1, Introduction, Project Description, and Approach to Environmental Analysis, 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.

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		result, the conservation projects that remain now are much more expensive or operationally difficult than those that were implemented in the past. There is no more “low hanging fruit” from a conservation perspective. The State Water Board has failed to identify substantial evidence in support of the Draft Staff Report’s determination that EBMUD would be able to feasibly obtain replacement water supplies from additional water conservation, over and above its existing levels of water conservation, as assumed by the Draft Staff Report. This is contrary to Public Resources Code section 21168.5 requiring substantial evidence supporting such determinations. In addition, it is contrary to State Water Board CEQA regulation section 3777(b)(4), [Footnote 71: Cal. Code Regs., tit. 23.] which requires the Draft Staff Report to include an “environmental analysis of the reasonably foreseeable methods of compliance.” As described in the comments above, the assumed replacement water supply from additional water conservation is not real; it would not be available to EBMUD as assumed in the Draft Staff Report and so therefore cannot be considered a reasonably foreseeable method of compliance. As a result, the Draft Staff Report runs afoul of section 3777(b)(4). Further, because the replacement water supplies from additional water conservation would not realistically be available to EBMUD as assumed by the Draft Staff Report, significant, unmitigated impacts remain from the imposition of the proposed Plan amendments.	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, the impacts remain potentially significant. By recognizing that the proposed mitigation may not be applied by other agencies, the Staff Report’s analysis does not assume that every agency will implement measures, including those cited in the comment. Also see Common Response 7.1, General CEQA and Approach to the Analysis, for additional information on the approach to the analysis and mitigation measures. Finally, while current market penetration of water efficient fixtures and appliances varies across the state, even in early-adopting areas further water conservation may be possible. Recent technological improvements and new regulatory requirements suggest that additional water conservation is likely feasible, even where water users have already implemented water conservation actions. For example, toilet efficiency standards have continued to rise with California legislature adopting Assembly Bill 715 in 2007 to require manufactures to start offering high-efficiency toilets (HETs) with a flushing volume under 1.28 gallons per flush (gpf). The requirements of AB 715 were further solidified when its standards were incorporated into Title 20 regulations in 2015, making only HETs offered for sale in California starting in 2016 (California Urban Water Conservation Council 2016). Additionally, California adopted Appliance Efficiency Standards until Title 20, which were first introduced in 2015 under an executive order. This order mandated new plumbing efficiency standards across fixtures such as kitchen faucets, public lavatory faucets, toilets, urinal flush valves, and more. These standards went into effect in 2016 (Delta Faucet 2019). Given this timeline on water conservation innovation, it is highly likely that municipal water suppliers like can achieve additional water conservation through HETs and other upgrades to modern water-use appliances. Refer to Common Response 7.20, Utilities and Service Systems, for an additional discussion related to urban water conservation.
311	65	There Is a Lack of Substantial Evidence Supporting the Feasibility of Water Transfers as a Feasible Replacement Water	Please see Common Response 8.1, Economic Analysis and Other Considerations, for information regarding the feasibility of water

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		Supply for EBMUD. The analysis in Appendix D of the Draft Staff Report favors water transfers as a replacement source of water for EBMUD, giving this supply source a weighting of ten out of ten. However, it is not feasible to secure additional water transfers on the scale necessary to mitigate the water supply impacts of the proposed Plan amendments. Water transfers can be difficult to obtain in critically dry years even under existing conditions because, under such conditions, sellers' supply of surplus or expendable water declines precisely when buyers have an increased need for additional supply. And water transfers will become harder to obtain if the State Water Board implements one of the unimpaired flow alternatives. The proposed Plan amendments would impact the supplies of all participants in the water transfer markets. Sellers would need to make additional releases to comply with the new flow objectives, including water they otherwise might sell. Buyers would search for more transfer water to remedy the water supply impacts of the proposed Plan amendments. The net result will be a smaller and more expensive pool of available transfer water. The Draft Staff Report does not analyze potential impacts to the water transfer market which foreseeably will be caused by the unimpaired flow alternatives. Because there is no recognition of this issue, there is also no effort to discuss or mitigate the fact that transfers are likely to be less available as a replacement supply than the Draft Staff Report assumes. In addition, the Freeport Facilities that EBMUD uses to convey transfer water from the Sacramento River to its Mokelumne Aqueducts have capacity limitations that could limit the ability to obtain transfer water when it is available, particularly when EBMUD is operating the Freeport Facilities EBMUD would also potentially lack sufficient treatment capacity. Projects to increase conveyance and treatment capacity would require time and money, and it would take decades to complete. The Draft Staff Report's analysis did not consider these capacity limitations, nor the impacts of significant capital projects necessary to address the capacity problem. Thus, the transfers element of the	transfers. Section 7.1.5.3, Reasonably Foreseeable Methods of Compliance and Response Actions, acknowledges that implementation of the project would reduce Sacramento/Delta water supplies at certain times and locations, which could limit the amount of surface water available for transfer. At the same time, changes in water supply could increase the value of transfer water, thereby incentivizing transfers and leading to transfers from lower net revenue crops to higher net revenue crops or for municipal uses. Section 6.6, Other Water Management Actions, provides information on temporary and permanent transfers that have occurred in recent decades. As discussed in Section 8.3, Costs Associated with Other Water Management Actions, there is a suite of reasonably foreseeable actions that affected entities may undertake to address possible surface water supply reductions. Water transfers were considered in the Staff Report analysis because urban water management plans indicated that such transfers had been or were being considered as part of the overall water supply planning effort for the Bay Area. As shown in Table D-18, for its cost analysis the Staff Report gives water transfers a weight of 10 out of 17 as a replacement source of water for EBMUD. The Staff Report acknowledges that the issue is complex, requiring knowledge and information regarding supply alternatives, future demand and market conditions, and behavior of willing sellers and buyers in response to market prices, thus the analyses assumes that there could be greater demand pressure in the water transfer market such that future prices may be higher than recent historical trends. Please also see Common Response 8.1, Economic Analysis and Other Considerations, regarding regional economic analysis, estimates of potential effects, water transfers and cost of replacement water supplies, and funding opportunities. Finally, in Section 7.22, New or Modified Facilities, the Staff Report discusses potential environmental impacts resulting from actions entities may take to procure alternative water supplies in response to reduced surface water supplies, including a potential need for the construction of new or upgraded treatment facilities. Please see Common Response 7.20, Utilities and Service Systems, for information on how the Staff Report

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		replacement water under the unimpaired flow alternatives is not real. The impacts remain and must be mitigated.	identifies the significant environmental impacts associated with the potential response of water users to reductions of water supply for municipal use and proposes measures to mitigate those effects, and a discussion of feasibility of response actions to reduced municipal water supply.
311	66	The Draft Staff Report also drastically underestimates the costs of water transfers, using a unit cost of \$500 per acre-foot (AF) for Bay-Area water transfers. For comparison, in 2022, EBMUD purchased water at a cost of \$720 per AF. As discussed above, it is reasonable to assume that the transfer market would become much more constrained under the percent of unimpaired flow alternatives, meaning that costs in the future would likely be much higher. Water transfers also involve costs beyond the purchase price. EBMUD conveys water transfers through the Freeport facilities and Folsom South Canal to EBMUD's Mokelumne Aqueducts at a cost of about \$359 per AF, plus start-up costs. These transfers are typically of poorer water quality than EBMUD's Mokelumne River supply and can be more expensive to treat. Increased reliance on water transfers, as the Draft Staff Report suggests, would require EBMUD to operate the Freeport Facilities more intensively. Those facilities include large, energy-intensive pumps to draw water from the Sacramento River, and a series of pumping plants which convey the water many miles to the Mokelumne Aqueducts. This would likely increase energy usage with resulting impacts on greenhouse gas emissions. The Draft Staff Report did not identify or analyze this impact. As demonstrated above, the State Water Board has failed to identify evidence to support the Draft Staff Report's determination that EBMUD would be able to feasibly obtain replacement water supplies from water transfers to mitigate the significant shortages that will result from implementing the project. This reliance on infeasible mitigation is improper and inconsistent with State Water Board CEQA regulation Cal. Code Regs., tit.23, § 3777(b)(4), which requires the Draft Staff Report to include an "environmental analysis of the reasonably foreseeable methods of compliance."	Please see the response to comment 311-65 regarding water transfers. Section 7.12.1, Surface Water, acknowledges that changes in hydrology and supply could affect the quality of surface water sources used for drinking water due to potential effects such as increased use of lower quality water supply sources. See also Common Response 8.1, Economic Analysis and Other Considerations, regarding cost estimates and discussion of water transfers pricing and viability. Environmental effects of increased use of water transfers using existing infrastructure are evaluated in the resource-specific analyses in Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems (under Other Water Management Actions). Refer to the response to comment 311-150 regarding the greenhouse gas emissions analyses.

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311	67	There Is a Lack of Substantial Evidence Supporting the Feasibility of Recycled Water or Desalination as a Feasible Replacement Water Supply for EBMUD. The Draft Staff Report suggests that water suppliers can invest in water recycling or desalination. However, these projects will take decades to implement and are more expensive than is suggested by the Draft Staff Report. Both water recycling and desalination are also highly energy intensive, which could lead to an increase in greenhouse gas emissions, and the Draft Staff Report does not discuss this effect of the mitigation. CEQA Guidelines section 15126.4 requires agencies to consider feasible means, supported by substantial evidence and subject to monitoring and reporting, of mitigating the significant effects of greenhouse gas emissions, and despite this requirement, the Draft Staff Report promotes desalination as a means of replacing Mokelumne River supplies without analyzing the associated impacts. EBMUD' 2018 Recycled Water Master Plan Update identified a suite of recommended nonpotable projects, with an average unit cost of \$2,108 per AF (2018 dollars). Based on the current ENR Construction Cost Index, that would equate to approximately \$3,036 in today's dollars, compared to the \$1,900 per AF unit cost in the Draft Staff Report. Brackish desalination may also not be a reliable water supply. EBMUD participated in a regional desalination pilot study in 2010 that identified potential sites for a regional desalination plant, including a site in the Delta. It was determined that extracting water from the Delta for a desalination plant would require a water right, which could be curtailed during dry years, rendering the project unreliable. This challenge to desalination as a supply for the EBMUD service area should be recognized in the Draft Staff Report. The failure to acknowledge the implementation difficulties with water recycling and desalination is contrary to the State Water Board's CEQA regulations requiring the Draft Staff Report to include an analysis of mitigation measures and "environmental analysis of the reasonably foreseeable methods of compliance." [Footnote 72: Cal. Code Regs., tit. 23, § 3777, subd. (b)(4).] As	Not all desalination plants require a water right. It depends on the nature of the project and the source of the water to be treated. While the revised proposed Plan amendments may reduce available surface water supplies, this would not make a desalination facility unreliable in all cases. The impact conclusions made in the Staff Report do not rely on the implementation of other water management actions. The Staff Report recognizes that the availability of replacement supplies may be limited in some cases. CEQA does not prohibit the identification of feasible mitigation just because it may not be feasible in all cases. The environmental and economic analyses presented in the Staff Report do not assume that municipal water suppliers will adopt any specific strategies in response to the Sacramento/Delta update to the Bay-Delta Plan. It is possible that the rage of capital and unit costs for recycled water projects may have increased over time. The analysis accurately reflects relative values of different resource effects and as a share of economic output at a particular point in time and is sufficient to inform decision makers. See Common Response 8.1, Economic Analysis and Other Considerations, for additional regulatory context. Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems, of the Staff Report analyze environmental impacts that may result from changes in hydrology and changes in water supply, including other water management actions, such as water recycling. For example, the analysis presented in Section 7.10, Greenhouse Gas Emissions, includes an evaluation of the impacts of water recycling with an estimate of energy use and GHG emissions. Section 7.22, New or Modified Facilities, addresses the environmental actions that entities may take that would involve construction to modify or build new facilities and infrastructure to supplement or conserve surface water supplies, including GHG emissions associated with desalination plants. Both Section 7.10, Greenhouse Gas Emissions, and Section 7.22, New or Modified Facilities, conclude that GHG impacts could be

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		demonstrated in the comments above, the assumed replacement water supply from additional water recycling is not available to EBMUD as assumed in the Draft Staff Report and therefore cannot be considered a reasonably foreseeable method of compliance. As a result, the Draft Staff Report runs afoul of Title 23 regulations. Further, because replacing EBMUD's Mokelumne water supplies with additional water recycling or desalination would cause additional GHG and other impacts, this should be recognized and analyzed in the Draft Staff Report. Finally, recycled water would not realistically be available to EBMUD as assumed by the Draft Staff Report.	significant and identify mitigation for that impact. As discussed in Section 7.1, Introduction, Project Description, and Approach to Environmental Analysis, 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 potentially significant impacts. Therefore, unless and until the mitigation is fully implemented, the impacts remain potentially significant. Please see Common Response 7.1, General CEQA and Approach to the Analysis, for additional information on the approach to the analysis and mitigation measures.
311	68	There Is a Lack of Substantial Evidence Supporting the Feasibility of Groundwater as a Feasible Replacement Water Supply for EBMUD. The alternative supply portfolio in Appendix D includes "Sacramento Groundwater banking" for EBMUD. Although EBMUD is exploring opportunities for groundwater banking in the Sacramento Region, it does not currently have any infrastructure or agreements to support this water supply. EBMUD's principal efforts to establish a groundwater banking program have been in the San Joaquin valley. The Demonstration Recharge, Extraction, and Aquifer Management (DREAM) Project is the culmination of decades of work trying to establish groundwater banking along the Mokelumne River, and future phases are uncertain. Such supplies are not readily available to make up for the severe water shortages that would be imposed by the proposed Plan Amendments. Further, the feasibility of any groundwater banking project would be threatened by the unimpaired flow alternatives, as the reduction in surface water would severely limit the amount of water available to recharge groundwater basins. In addition, the Sustainable Groundwater Management Act limits the use of groundwater in many areas. The groundwater element of the purported replacement water relies on this as mitigation is infeasible because EBMUD would seldom (if ever) be in a	Please see the response to comment 311-62. Municipal water suppliers may choose any approach, a combination of approaches, or they may identify another as-yet unknown approach to meet their own unique needs. To estimate cost, Appendix D, Supplemental Municipal Supply Analysis Information, considers potential water supply sources and unit cost. Groundwater supplies from the Sacramento River watershed are included as a portfolio option. EBMUD is assigned a relative weight of 1 out of 17 in Appendix D to indicate that a portfolio option may be considered as a replacement source of supply for that provider. This approach was taken to ensure that the analysis did not omit any reasonably foreseeable water supply categories. Although Appendix D does not reflect any supplies from groundwater storage and recovery for EBMUD, groundwater storage is potentially a viable alternative water supply strategy. According to EBMUD 2020 UWMP, "EBMUD is investigating long-range options for the combined use of groundwater and surface water sources beyond the EBMUD service area. In addition to providing a dry-year supply for EBMUD, groundwater banking can help address over-drafted groundwater basins." EBMUD also mentions the Demonstration Recharge Extraction and Aquifer Management (DREAM) pilot project, a groundwater banking project with EBMUD, the North San Joaquin Water Conservation District (NSJCWCD), and the San Joaquin County (SJC) (EBMUD 2021). This pilot project operated

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		position to store water underground for future supplemental supply needs if the proposed Plan amendments are adopted. EBMUD may store water only when it has more water available to it than it needs to meet its customers' needs. However, EBMUD could expect to experience water shortages virtually every year, which the Draft Staff Report's water supply analysis confirms, as discussed earlier in this letter. Sustainable conjunctive use is unlikely to be feasible in such circumstances. Because the replacement water supplies from groundwater would not realistically be available to EBMUD as assumed by the Draft Staff Report, significant, unmitigated impacts remain from the imposition of the proposed Plan amendments.	from 2018-2024 and was deemed a success with plans to expand the project moving forward. "With the successful completion of the DREAM Project, agency partners are now looking ahead to develop a larger-scale groundwater banking project. This expanded effort could store up to 8,000 acre-feet (AF) or more per year, providing a reliable and sustainable water supply for years to come" (EBMUD n.d.). Additionally, groundwater banking has been shown to be feasible, as multiple Bay Area water utilities currently utilize groundwater banking from either the Semitropic Groundwater Bank or the Cawelo Groundwater Bank (Bay Area Reliability Agencies 2017). As demonstrated by the DREAM pilot project, groundwater storage and recovery has been shown to be successful in the Bay Area. Additionally, its forward-looking statement regarding expansion, published after the release of the proposed flow amendments, indicates that these agency partners continue to see groundwater banking as a feasible alternative to changes in surface water supply. However, the analysis does imply supplies would have to develop and use water supply sources in those exact proportions. Please also see Common Response 8.1, Economic Analysis and Other Considerations, regarding regional economic analysis, estimates of potential effects, and funding opportunities.
311	69	The Draft Staff Report's Reliance on Unavailable and Infeasible Replacement Sources of Water Supply Improperly Masks the Numerous and Severe Impacts from the Loss of EBMUD's Water Supplies. As discussed above, the alternative supplies proposed by the Draft Staff Report are not a feasible means of mitigating for the severe water shortages that would result from the unimpaired flow alternatives. The water would not actually exist under the percent of unimpaired flow alternatives, and even if it could be produced, it would take decades to implement, and would be prohibitively expensive. The Draft Staff Report minimizes the challenges to obtain those water supplies and the significant impacts to EBMUD's municipal supplies caused by the proposed Plan amendments, High Flow, and Low Flow alternatives. The impacts are real and significant, and the Draft Staff Report has	Please see the responses to comments 311-4 and 311-9. The claim that the draft Staff Report "relies on" mitigation measures is incorrect. The State Water Board acknowledges in Chapter 7, Environmental Analysis, that it cannot guarantee that the identified measures will be adopted or applied to fully mitigate potential impacts, and therefore such impacts remain potentially significant. Please see Common Response 7.1, General CEQA and Approach to the Analysis, regarding the adequacy of the mitigation measures. The impact conclusions made 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. Refer to Common Response 8.1, Economic Analysis and Other Considerations, for information about feasibility and cost of various water supply options. Refer also to Common Response

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		not adequately assessed them. The State Water Board's conclusion that it is reasonably foreseeable that EBMUD could develop and/or procure sufficient water to replace the water currently available through its Mokelumne River water rights through the alleged replacement water supplies identified in the Draft Staff Report is not supported by substantial evidence, and relying on this as mitigation is contrary to the requirement for a SED to identify feasible measures to minimize significant impacts (CEQA Guidelines 15126.4). A mitigation measure is feasible only if it is capable of being accomplished in a successful manner within a reasonable period of time, and it is important in making this evaluation to take into account economic, environmental, social, and technological factors. [Footnote 73: California Native Plant Society v. City of Rancho Cordova (2009) 172 Cal.App.4th 603, 622.] An agency must consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the impacts of a project that it is proposing, and the Draft Staff Report fails to meet this requirement.	7.20, Utilities and Service Systems, regarding feasibility of actions water suppliers may take in response to the proposed Plan amendments.
311	70	Economic Impacts to EBMUD and its Customers EBMUD hired economist David L. Sunding, Ph.D. to evaluate the economic impacts that would be caused by the imposition of unimpaired flow objectives on EBMUD. Dr. Sunding's Report, The Economic Impacts of Water Shortages in the EBMUD Service Area (submitted with this letter as Exhibit C [ATT 3]) was prepared in February 2022 and is referred to hereafter as the Sunding Report. At that time, it appeared the State Water Board was considering Bay-Delta Plan water quality objectives of between 45%–65% unimpaired flow on the Mokelumne River [Footnote 74: State Water Board's July 2018 Framework for the Sacramento/Delta Update to the Bay-Delta Plan, pp. 1-2.]. In addition, at that time it was not clear how the cold water habitat narrative objective would be applied to EBMUD or the Mokelumne. The concept of a carryover storage target that would be applied to Camanche Reservoir was not introduced until the recent Draft Staff Report [Footnote 75: Even when the	Please refer to response to Comment 311-5 and Common Response 8.1, Economic Analysis and Other Considerations, regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022). The Staff Report provides extensive analysis and sufficient consideration of the economic effects that could occur as a result of the proposed Plan amendments. For example, Section 8.5, Municipal Water Supply Economic Effects, appropriately analyzes potential municipal water supply economic effects. The economic analysis presented in the Staff Report is appropriately detailed for the scope of the project. See Section 8.5 of the Staff Report and Common Response 8.1, Economic Analysis and Other Considerations, for additional detail on the approach to the analysis of municipal water supply economic effects. The conclusions made in the Staff Report do not rely on the

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		temperature control objective was initially provided in the September 2023 Draft Staff Report, it was not clearly described in a manner making it understandable to the public, a topic which EBMUD discusses above.]. Thus, the additional effects that such a temperature objective would have on the Mokelumne River were not assessed by Dr. Sunding. Therefore, Dr. Sunding looked only at the economic impacts of water shortages caused by the imposition of unimpaired flow requirements on the Mokelumne River. As a result, the Sunding Report limited its assessment of the economic impacts on the EBMUD service area to those impacts resulting from: - 45% and 55% unimpaired flow only; it did not include impacts of impaired flow at rates above 55%; - Nor did it include the additional impacts that would result from the proposed temperature control objective. Dr. Sunding's analysis under-estimates the economic impacts to the EBMUD service area of what the State Water Board now proposes in its September 2023 Draft Staff Report. Nevertheless, despite this significant under-estimation of impacts, the economic impacts his analysis does reveal are severe. In summary: - At 45% unimpaired flow: During the worst drought year the impacts of a 45% unimpaired flow requirement in EBMUD's service area would include: -- \$1 Billion in direct economic impacts to EBMUD customers -- 160,000 lost jobs in the EBMUD service area alone -- \$27 Billion in service area business losses -- \$260 Million in revenue losses for EBMUD These are substantial impacts, both in terms of their human social impacts, economic impacts, and, as discussed below, their	implementation of other water management actions. The Staff Report recognizes that the availability of replacement supplies may be limited in some cases. See also Common Response 6.3, Water Supply and Other Water Management Actions. EBMUD's comments tend to focus on worst-case scenarios and exaggerate supply impacts while avoiding considering the plan flexibilities and other important context for water supply. The State Water Board recognizes that providing instream flows for the environment necessarily results in less water available for other uses. Providing balanced protection of all beneficial uses of water is incredibly important and requires careful consideration, and the State Water Board is sensitive to municipal supply impacts. Also see Common Response 8.1, Economic Analysis and Other Considerations, for a discussion on water rates, and for potential sources of funding for municipal water conservation and alternative water supplies. In addition, Staff Report Chapter 10, Economically Disadvantaged Communities, discusses various financial and technical assistance programs available to assist public water systems serving DACs. These programs are designed to ensure access to safe, clean, and affordable water supplies and maintain compliance with all applicable water laws and regulation. The State Water Board is at the forefront of assisting DACs with obtaining clean, safe, and reliable water supplies. In doing so, the State Water Board is making its commitment to the human right to water through financial assistance, technical assistance, consolidations, SGMA oversight, and other means.

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		impacts on economically disadvantaged communities. But it gets worse. - At 55% unimpaired flow: During the worst drought year the impacts of a 55% unimpaired flow requirement in EBMUD's service area would include: -- \$1.9 Billion in direct economic impacts to EBMUD customers; -- 333,000 lost jobs in the EBMUD service area alone; -- \$56 Billion in service area business losses; -- \$487 Million in revenue losses for EBMUD. These impacts are extreme and unreasonable. They would decimate EBMUD, its customers, and the economy that relies on its water. While the Sunding Report estimates revenue losses to EBMUD, it does not consider the costs of replacement supplies; similarly, the analysis of customer welfare losses does not account for rate increases that would be necessary to develop alternative supplies. And, critically, this analysis does not even include impacts from unimpaired flow rates higher than 55% or the temperature-control objectives now contained in the proposed Plan amendments. The Sunding Report is the best available evidence on the economic impacts in the EBMUD service area resulting from the imposition of unimpaired flow on the Mokelumne River. In contrast, the Draft Staff Report does not contain a valid analysis of social and economic impacts of the proposed Plan amendments in the EBMUD service area. As noted above, the Draft Staff Report instead ducks the issue by relying on Panglossian assumptions of replacement water to replace the water taken from EBMUD by the proposed Plan amendments. The deficiencies of that approach are discussed above.	
311	71	Housing Impacts to the East Bay Region The Draft Staff Report does not adequately assess the significant impacts to housing or offer realistic mitigation for these impacts.	It's important to note that the program of implementation contains various flexibilities that can help minimize water supply impacts. Failure to consider the flexibilities provided can result in overstating the actual changes in supply that would result

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		California is experiencing a housing crisis according to the state's own Department of Housing and Community Development (HCD). By HCD's own estimate, the State needs to add more than 2.5 million new homes over the next eight-year cycle. These new homes, even if efficient, will need water. In EBMUD's service area the problem is acute. In 2021, the Association of Bay Area Governments prepared the Regional Housing Needs Allocation (RHNA) Plan for the San Francisco Bay Area, allocating to each city and county the number of new housing units that would be needed between 2023 and 2031. ABAG allocated a total of 138,040 new housing units to Alameda and Contra Costa Counties; 58,228 units of those units were designated as "Low Income" or "Very Low Income" Housing. EBMUD's own studies confirm the housing need. In its 2050 Demand Study, EBMUD spoke to cities and counties in its service area to obtain information on planned new development. EBMUD estimated that 180,432 new dwelling units were planned for its service area between 2022 and 2050. Even if new developments are highly water efficient, they still need water, and EBMUD needs adequate, reliable supply to meet this demand. The Draft Staff Report does not address this issue, merely stating that "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." However, as discussed above, these identified replacement water supplies may not exist or be feasible to implement. The Draft Staff Report ignores the issue and includes almost no discussion about the impacts of significantly limiting the water supply for planned and necessary growth within the service areas of public water suppliers, including EBMUD. In fact, the Draft Staff Report inexplicably finds no potentially significant housing impacts. This conclusion is incorrect and constitutes an	from plan implementation. 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. 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. Finally, the revised proposed Plan amendments provide for a VA pathway for an eight-year term with the possibility of extension that reduces the required flow contributions. 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.

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		inadequacy of the draft Staff Report that must be remedied by the inclusion of a legitimate analysis of potential housing impacts resulting from the proposed Plan amendments, before the Draft Staff Report can be considered adequate under CEQA.	
311	72	Impacts to Urban Disadvantaged Communities in the East Bay The cost to obtain water supplies to replace the water taken by the proposed Plan amendments – should such replacement water even be available – will be high. EBMUD would need to raise its water rates to recover the cost of obtaining that replacement water, which will be more expensive than its existing supplies and could, as acknowledged in the Draft Staff Report, require new infrastructure or infrastructure improvements. These rate increases would disproportionately impact lower income customers in the EBMUD service area, those people least able to afford higher water costs necessitated by the State Water Board's action. EBMUD's service area includes many disadvantaged communities in Alameda and Contra Costa counties. EBMUD obtained GIS data on SB 535 disadvantaged communities from the State's CalEnviroScreen system and used that data to generate Figure 7 [Exhibit 7], which shows Disadvantaged Communities with EBMUD's service area. Based on the population data embedded in the files, 266,916 people live in Disadvantaged Communities in EBMUD's service area. This equates to roughly 19%, or one in five, EBMUD customers. The Draft Staff Report does not address impacts to these disadvantaged communities at all; it completely omits doing so. Instead, in its analysis of disadvantaged communities, the Draft Staff Report discusses the matter in terms of small water systems that often rely on groundwater, [Footnote 76: Draft Staff Report, p. 8-101.] as though those were the only disadvantaged communities at issue. While those communities certainly have their own set of issues, there are large disadvantaged communities in urban areas as well, including those disadvantaged communities in the EBMUD service area. The Draft Staff Report's complete failure to analyze and assess	Under CEQA, economic and social changes are not treated as significant effects on the environment. However, physical changes to the environment as a result of economic and social changes may be significant. Economic and social changes also may be used to determine the significance of physical changes caused by the economic or social change (Cal. Code Regs., tit. 14, § 15064, subd. (e)). The Staff Report adequately evaluates the environmental impacts of the project as required by CEQA. Environmental impacts relevant to DACs are discussed in multiple sections and chapters of the Staff Report. Changes in water supply, including supplies from the Sacramento/Delta watershed, are evaluated extensively throughout the Staff Report. 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 revised proposed Plan amendments include 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. 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.

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		the impacts of the proposed Plan amendments on the disadvantaged communities within EBMUD's service area constitutes a significant defect in the CEQA document. Such impacts must be addressed and mitigated for valid analysis to have occurred. When assessing these impacts, the State Water Board will need to consider Proposition 218, which provides that California water suppliers can only charge customers for the cost of providing water service to them. In practice, this means that one group of customers cannot subsidize another customer group. This limitation makes it challenging for water suppliers to develop programs to support low-income customers, because they cannot have more financially secure water customers subsidize economically disadvantaged customers. It should also be noted that not all water suppliers have access to the same non-rate revenue streams as EBMUD. Some water suppliers may not be able to provide rate assistance that meets the requirements of Proposition 218. The State's proposed mitigation is not sufficient to address this issue. While the state does offer programs to provide technical support and help offset costs for disadvantaged communities, these programs are limited in scope and duration. There are no state or federal programs that provide long-term rate assistance to low-income customers served by urban suppliers like EBMUD. Impacts to disadvantaged communities would be exacerbated by the impacts to housing identified above. There is already a housing crisis in the Bay Area, and preventing the development of new housing affects availability of supply for disadvantaged communities. As a result, the Draft Staff Report will need to be revised, first to accurately describe and characterize the economically disadvantaged communities in the EBMUD service area; second, to assess the economic impacts on these communities from the proposed Plan amendments; and third, to mitigate those impacts with programs and mitigations that actually can be applied to	Proposition 218 is not a blanket prohibition on tiered water rates. Please see Common Response 8.1, Economic Analysis and Other Considerations, for additional discussion on Proposition 218 and Assembly Bill 1827, and municipal water rates. 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.

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		urban disadvantaged communities such as those in the EBMUD service area.	
311	73	[Exhibit 7: Graphic titled Figure 7. Disadvantaged communities in EBMUD service area]	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.
311	74	Energy and Greenhouse Gas Impacts The Draft Staff Report acknowledges the potential for significant impacts resulting from changes in hydropower production and increased energy use related to new water supplies, but it offers no real mitigation for these impacts. Section 7.8 discusses hydropower. Although hydropower is a small portion of the State’s overall energy portfolio, it is important for meeting peak summer demand as it is one of very few energy sources that can be “ramped up” quickly. By shifting hydropower production from Summer to Spring, the proposed Plan amendments could make it harder for communities to meet peak day demand. In addition, reducing availability of hydropower could lead to increased use of energy sources like natural gas that release greenhouse gases. The Draft Staff Report does not offer true mitigation for these impacts. Instead, it suggests that voluntary implementation plans, and the temperature management plans that would be required under the cold water habitat narrative objective, should be developed in a way that minimizes disruptions to hydropower production. There is no quantitative analysis to demonstrate that this is even possible. Suggesting that the impacts would be mitigated at a later date, through a vaguely defined process, without any supporting analysis, does not constitute real (or legally adequate) mitigation. It also constitutes a prohibited deferral of the development of adequate mitigation measures, a topic addressed in Section IX below. Thus, the Draft Staff Report is deficient.	Please see the response to comment 311-148 for discussion of adequacy of mitigation measures.
311	75	Section 7.10 discusses greenhouse gas emissions. It acknowledges a potentially significant impact from increased greenhouse gas emissions due to the hydropower impacts discussed above, as well as from the development of alternative	The assertion that the greenhouse gas mitigation measures presented in the Staff Report (Mitigation Measures MM-GHG-a and MM-GHG-b) do not provide adequate environmental protection because they identify strategies complementary to

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		water supply portfolios that include more energy-intensive water sources. However, no real mitigation is offered; instead, the Draft Staff Report emphasizes that water agencies should increase water and energy efficiency to reduce greenhouse gas emissions. Many agencies already have extensive water conservation and energy efficiency programs, such that they cannot use increased conservation to offset the new greenhouse gas emissions resulting from development of alternative supplies. Thus, the Draft Staff Report is not offering true mitigation for this potentially significant impact.	existing agency water conservation and energy efficiency measures is incorrect and unsupported. Please refer to Common Response 7.10, Greenhouse Gas Emissions and Mitigation, regarding greenhouse gas mitigation.
311	76	Mitigation Measures are Not Clearly Defined and Amount to a Deferral of the Development of Adequate Mitigations The Draft Staff Report substantially underestimates the potentially significant environmental impacts resulting from the proposed Plan amendments. And, critically, the Draft Staff Report does not mitigate those impacts. For example, the Draft Staff Report identifies a potentially significant impact to aquatic biological resources from the proposed Plan amendments, stating that: “Changes in reservoir levels could affect downstream flows and water temperatures below some reservoirs....” [Footnote 77: Draft Staff Report, p. 1-27.] EBMUD notes that, first, there absolutely would be changes in reservoir levels caused by the imposition of the proposed Plan amendments (see Section VII.A above). Second, those changes in reservoir levels would affect (a) downstream flows in the Mokelumne River below Camanche Dam and (b) adversely affect water temperatures in the Mokelumne River. The impacts on water temperatures would be significant; the proposed Plan amendments would lead to elevated water temperatures in EBMUD’s Pardee and Camanche Reservoirs and in the releases to the lower Mokelumne River. (See Section VII.B.2 above.) Third, the Draft Staff Report does not mitigate these impacts. Instead, it includes a purported “proposed mitigation” identified as MM-AQUA-a,d, that simply lists vague concepts as the mitigations. [Footnote 78: Draft Staff Report, pp. 1-27 to 1-28.] There is no clear description of the proposed mitigation measures to inform the public, and the parties subject to the	Please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, regarding cold water habitat as part of the project, scope of the water temperature analysis, and implementation of the cold water habitat objective. Please see also Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion about the level and scope of the analysis presented in the 2023 draft Staff Report, as well as a discussion of mitigation measures. The Staff Report adequately evaluates and discloses potential environmental impacts associated with changes in reservoir levels, flows, and temperatures on all major Sacramento Delta tributaries, including regulated tributaries like the Mokelumne River, in Section 7.6.2.4, Impact Analysis, and throughout Chapter 6, Changes in Hydrology and Water Supply. The State Water Board also modeled changes to Mokelumne River operations (including both Pardee and Camanche Reservoirs) using SacWAM in Appendix A, Modeling for the Unimpaired Flow Scenarios, of the 2023 draft Staff Report. Draft Staff Report, Section 6.3.1.1, Sacramento River Region and Delta Eastside Tributaries, describes the changes in hydrology in the Mokelumne River and explains that the basic pattern for most of the flow scenarios is higher streamflows in the winter and spring and lower flows in the summer and fall. Section 6.3.2.1, Sacramento River Watershed and Delta Eastside Tributaries Rim Reservoirs, includes analyses of reductions in April reservoir storage and carryover storage in both Camanche and Pardee Reservoirs under all flow scenarios for different water year types.

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		mitigation, precisely what the measures are; when they will be implemented; whether they can feasibly be implemented at that time; and how they will be implemented. The items listed as mitigations in measure MM-AQUA-a,d are so vague that they are more properly seen as nothing more than general mitigation concepts, to be crafted into clear mitigation measures at some future point. For example, the mitigation measure listed in Section 7.6.2.5 on page 1–27 of the Draft Staff Report under MM-AQUA-a,d as “1 – Temperature Control, and Reservoir Management” is not clearly defined. It appears that the actual temperature and reservoir strategies management measures are to be developed later, as the Draft Staff Report does not precisely describe them or articulate any performance measures to allow an understanding of the mitigation. This amounts to an impermissible deferral of a mitigation measure. [Footnote 79: Sundstrom, supra, at p. 307.] In addition, the measure includes actions to be performed or approved by other agencies or entities without providing any assurances as to how or when these actions will take place. Simply stating that other agencies will regulate, or that actions may occur, is not sufficient. Notably also, in the discussion of Voluntary Implementation Plans, the text states only that these could provide certain benefits if certain actions occur.	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 (WSA) 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. As explained in the Staff Report Section 13.4.2.3, Regulatory Pathway, there is also a tributary-specific WSA for the Mokelumne River which further reduces the unimpaired flow requirement down to 0% of unimpaired flow in some conditions depending on reservoir storage levels.
311	77	Mitigation Measure MM-UT-d is another example of the Draft Staff Report’s failure to adequately mitigate impacts but instead to defer the development of adequate mitigation measures. This measure includes the potential for the development of Voluntary Implementation Plans that could reduce the volume of water needed to meet Delta water quality requirements. However, the Draft Staff Report offers little to no information on what such plans might look like in general or for the Mokelumne specifically, and no analysis of potential impacts under such a proposal. The description in Section 7.20-50 suggests that “Water users are encouraged to work together to tailor approaches to meet the proposed Plan amendments in a manner that minimizes disruptions to consumptive uses.” This is not sufficient mitigation for these severe cutbacks; it amounts to nothing more than the deferral of the development of adequate mitigation.	Please see Common Response 1.3, Revised Proposed Plan Amendments, regarding voluntary implementation plans (now referred to as local cooperative solutions [LCS]). The LCS provisions are an element of the proposed Plan amendments and have been removed from the listed mitigation measures in response to comments citing <i>Lotus v. Dept. of Transportation</i> (2014) 223 Cal.App.4th 645. Nevertheless, LCSs remain in the Plan and present opportunities for local tailored solutions 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 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 implementation. A full range of flow

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			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. Other actions that water users may take to reduce the effect of changes in hydrology include diversifying their water supply portfolios to the extent possible and increasing water use efficiency and conservation. Municipal suppliers may choose any approach, or a combination of approaches, or they may identify another as-yet unknown approach to meet their own unique needs.
311	78	The Scientific Basis Report Is Flawed. Before adopting the proposed Bay-Delta Plan amendments, the State Water Board must submit for peer review a statement of their “scientific basis,” meaning their “foundations ... that are premised upon, or derived from, empirical data or other scientific findings, conclusions, or assumptions establishing a regulatory level, standard, or other requirement for the protection of public health or the environment.” [Footnote 80: Health & Saf. Code, § 57004 & subd. (a)(2).] The submittal must include “the scientific findings, conclusions, and assumptions on which the scientific portions of the proposed rule are based and the supporting scientific data, studies, and other appropriate materials,” and the submittal is evaluated for “sound scientific knowledge, methods, and practices.” [Footnote 81: Id. at subds. (d)(1) and (d)(2).] Accordingly, the State Water Board has prepared a Final Scientific Basis Report (Final SBR), and a “Final Draft” Scientific Basis Report Supplement (Final Draft SBR Supplement). [Footnote 82: Draft Staff Report, Appx. B (Final SBR) and Appx. G2 (Draft SBR Supplement).] However, neither report provides a lawful “scientific basis” for the proposed amendments because, insofar as the Mokelumne River is concerned, they are not based in sound science.	Please see Common Response 3.1, Fish Protection, on the 2017 Scientific Basis Report and Scientific Basis Report Supplement. Both reports underwent independent external scientific peer reviews, and their comments have been incorporated.
311	79	Final SBR (Appendix B to Draft Staff Report) EBMUD’s comments on the October 2016 Working Draft Scientific Basis Report are attached as Exhibit D [ATT 4]. Those comments are incorporated into this letter by reference. In general, our comments on the “working draft” were not	Please see Common Response 1.1, General Comments, on comments submitted for preceding documents. The proposed Plan amendments are supported by substantial evidence in the 2023 draft Staff Report and the Scientific Basis Report, which was subject to peer review pursuant to Health and

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		adequately addressed within the Final SBR, which is attached to the Draft Staff Report as Appendix B. The continued deficiencies with the Final SBR include the following: - It does not acknowledge how unimpaired flow may harm the Mokelumne River anadromous fishery by prematurely flushing young fry to the Delta where they cannot survive, and by depleting cold water in upstream reservoirs that would be necessary for the survival of returning Mokelumne River fall-run Chinook salmon later in the year. It does not adequately specify which beneficial uses and fishery species the Bay-Delta Plan amendments are designed to protect. - It does not include most current and accurate science with respect to the Mokelumne River. It relies on simulations of unimpaired flow while excluding actual available measured data, and it did not include an analysis of the Mokelumne River fishery comparable to the analysis performed for fisheries on other Bay-Delta tributaries, even though the missing information is readily available and should have been included in the Report. Accordingly, we conclude the Final SBR does not meet the requirements of Health and Safety Code section 57004. Moreover, because the Draft Staff Report relies on the deficient Final SBR to justify the proposed Plan amendments, it appears to lack substantial evidence to support its scientific rationale for the proposed Plan amendments.	Safety Code section 57004. As described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, the proposed Plan amendments include a cold water habitat objective that would be implemented with carryover storage requirements. Juvenile emigration of Chinook salmon is discussed in Staff Report Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, Section 3.4.5.2, Juvenile Rearing and Emigration, and Section 3.4.5.3, Juvenile Through-Delta Emigration. In these sections, multiple scientific studies demonstrate that increased flows can help increase juvenile emigration survival rates. In addition, the proposed update expands the timing of the Delta Cross Channel Gate closure is intended to help benefit fall-run Chinook from the Mokelumne River (see Staff Report Section 5.4.6.1, Delta Cross Channel Gates). Fall-run Chinook salmon in Central Valley watersheds, including the Mokelumne River, typically spawn in late fall through early winter months, and juveniles migrate downstream to and through the Delta during winter through spring months (2023 draft Staff Report Table 3.4-1). Increased stream flows during the juvenile salmon migration period, December through April, under the flow scenarios are expected to enhance their migration survival by reducing their migration time. Additionally, habitat conditions along their migratory route and in the Delta during winter months are mostly favorable for juvenile salmon survival and growth. Fall-run Chinook salmon juveniles emigrated from the Stanislaus River as young fry contributed to more than 20% of the returning adults (^Sturrock et al. 2015), demonstrating the importance of supporting multiple juvenile outmigration strategies through flow management. See Section 7.6.2.4, Impact Analysis, for the analysis of water temperature impacts of the proposed Plan amendments. The flow scenarios are modeled but the scenarios are compared to current conditions from available measured data. See Section 2.2.7, Delta Eastside Tributaries, of the 2023 draft Staff Report. It is necessary to use simulations for planning studies in order to compare possible future changes in operations to baseline conditions.

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			See Common Response 1.2, Water Quality Control Planning Process, on the consideration of beneficial uses and Common Response 3.1, Fish Protection, on the use of best available science, the scientific basis reports, and the flow benefit analyses.
311	80	Final Draft SBR Supplement (Appendix G2 to Draft Staff Report) The Final Draft SBR Supplement focuses on the VAs. It does not reflect the best available science on the Mokelumne River, even though EBMUD has called the State Water Board's attention to scientific data, studies, and reports which should be incorporated into the document. EBMUD's comments on the Final Draft SBR Supplement are attached to this letter as Exhibit E [ATT 5]. Those comments are incorporated into this letter by reference. We note two particular areas of concern. Incorrect Baseline Habitat Quantity. The SBR Supplement made changes to the baseline habitat quantities for the Mokelumne River between its draft and final versions that result in an inaccurate description of existing habitat conditions in the Mokelumne River. The January draft of the document defined the Mokelumne River habitat availability baseline as 11.94 acres of suitable spawning habitat and 185 acres of rearing habitat. However, the Final Draft SBR Supplement now defines the baseline for spawning habitat as 5.97 acres, without explanation. The amount of spawning habitat necessary for meeting the doubling goal spawners (6,600) is 8 acres of spawning habitat in both versions of the document. This results in a change: whereas before it appeared that the Mokelumne was already exceeding the doubling goal, the Final Draft SBR Supplement makes it appear as though the Mokelumne is not meeting that target. The 11.94 acre baseline has been EBMUD's understanding since 2018 based on EBMUD data inputs and VA discussions with CDFW and its consultant. That baseline was the reason EBMUD's VA proposal does not include spawning habitat. We continue to improve spawning and rearing habitat, outside of the minimum required commitments, but the change in baseline causes the MOU offer to appear	As described in Section 1.3.1.4, Water Temperature, 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, one aspect of the revision of the January 2023 draft Scientific Basis Report Supplement was the application of temperature criteria to the tributary habitat analyses. The application of these temperature criteria is the reason why the baseline suitable habitat decreased between the two drafts of the science report. Please see Common Response 3.1, Fish Protection, for information on the scientific basis reports and the use of best available science.

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		deficient. Moreover, the 5.97-acre baseline does not reflect actual conditions. In the January 2023 SBRS, modeling conducted by FlowWest that was parameterized by data collected in situ by EBMUD biologists have determined that the Mokelumne River in fact has 11.94 acres of spawning habitat. The document should include the correct baseline value of 11.94 acres.	
311	81	Improper Monthly Timestep Used to Evaluate Floodplain Inundation. The Final Draft SBR Supplement also continues to use a monthly timestep to evaluate floodplain inundation. EBMUD has commented on this problem before; see Comment 5 of Exhibit E to this letter. That comment discussed the scientific inappropriateness of a monthly timestep for evaluating floodplain inundation given that inundation criteria for habitat suitability occurs between 7 and 21 days, not a full month. [Footnote 83: Exhibit E, p. 4.] The Final Draft SBR Supplement did not address Comment 5. Because the problem remains unaddressed, we hereby renew Comment 5 from our February 6, 2023 letter in its entirety and incorporate it by reference into these comments on the Draft Staff Report.	Please see Section 1.3.1.8, Hydrology and Operations Modeling, 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 response to comments received on the January 2023 draft Scientific Basis Report Supplement suggesting that a monthly timestep was not sufficient to capture sub-monthly benefits of the VA assets. In addition, the VA parties did not release sub-monthly schedules for VA flow releases. The default VA flow schedules included in the draft VA Strategic Plan in Appendix G1, Voluntary Agreement Proposal, of the 2023 draft Staff Report have a monthly timestep. Furthermore, as described in Appendix G2 of the 2023 draft Staff Report, the MFE analysis used a conservative approach so suitable habitat would be guaranteed and the monthly timestep provided a conservative estimate of benefits using the information that was available.
311	82	The Proposed “Modular” Alternatives Are Fatally Flawed. The Draft Staff Report includes several “modular alternatives,” including one to expand water right Term 91 (Alternative 5a) and another to impose cutbacks in consumption (Alternative 5b). These modular alternatives are poorly defined. It is also difficult to determine if they are true alternatives, meaning are they alternatives to the proposed Plan amendments, or are they instead just subsets of the project to be added on top of the proposed Plan amendments? Regardless, the draft Staff Report contains little evaluation of their impacts, either standing alone or in combination with other alternatives, such that the draft Staff Report cannot serve as CEQA documentation for implementation of the alternatives.	The 2023 draft Staff Report described the modular drought alternatives in Section 7.2, Description of Alternatives, with sufficient detail for the purposes of the analysis. These alternatives were adequately analyzed in Section 7.24.6, Modular Drought Alternatives (Alternative 5a and 5b), of the 2023 draft Staff Report. Please see Common Response 7.24, Alternatives Analysis, for information regarding the level of detail of the description and analysis of the alternatives. As discussed in Section 7.24.1, Introduction, the modular alternatives could be layered onto the stand-alone alternatives, and the environmental impacts of each of the modular alternatives are evaluated in isolation compared with existing conditions to properly characterize the changes that could occur from each modular alternative, as distinguished from impacts of the stand-alone alternatives.

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311	83	Alternative 5a – Expansion of “Term 91-Type Approach” Alternative 5a Is Not Adequately Described or Analyzed as Required by CEQA. Alternative 5a is described by the draft Staff Report as an expansion of “a Term 91-type approach to other more senior water right holders and claimants.” [Footnote 84: Draft Staff Report, p. 7.2-12.] The alternative is loosely defined; for example, the Draft Staff Report does not list which water rights would have Term 91 added, or how frequently it would be invoked. Thus, it is impossible for diverters to assess potential impacts to them if this module were to be implemented. There is virtually no environmental analysis of its potentially significant environmental impacts; the brief analysis of impacts in Section 7.24.6.1 of the draft Staff Report is not specific and does not contain quantitative analysis. And it contains no analysis of the impacts resulting from the imposition of Alternative 5a upon EBMUD, such that the draft Staff Report cannot serve as the environmental documentation supporting the imposition of the alternative upon EBMUD. Further, there is no quantitative analysis of impacts associated with implementing Alternative 5a in combination with the proposed Plan amendments, such as the unimpaired flow and/or the cold water habitat objectives, or the other alternatives. The State Water Board clearly envisions such combinations, as it states: “Alternatives 5a and 5b could be adopted in combination with the proposed Plan amendments, other flow alternatives, or the proposed Vas.” [Footnote 85: Id. At p. 7.2-3 (emphasis added).] As discussed above in this letter, there would be significant, even severe, impacts resulting from the unimpaired flow and cold water habitat objectives in the proposed Plan amendments. To add another restriction on diversions, such as that represented in Alternative 5a, on top of and in combination with those proposed objectives, would exacerbate their impacts, as they combined to create synergistic adverse impacts. But the draft Staff Report contains no quantitative analysis of such combined impacts. Nor are there specific mitigation measures developed for the alternative.	Alternative 5a, Instream Flow Protection Provision, was adequately described in Section 7.2, Description of Alternatives, and adequately analyzed in Section 7.24, Alternatives Analysis, of the 2023 draft Staff Report. As discussed in Section 7.24, the environmental impacts of each of the modular alternatives are evaluated in isolation compared with existing conditions to properly characterize the changes that could occur from each modular alternative, as distinguished from impacts of the stand-alone alternatives. Please see 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 more information on the description and analysis of alternatives. Also, as described in the 2023 draft Staff Report, Section 7.24.6, Modular Drought Alternatives (Alternative 5a and 5b), impacts can be avoided or reduced by implementation of the mitigation measures indicated in Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems.

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		As a result of the above, the Draft Staff Report does not meet its requirements under CEQA of clearly defining Alternative 5a, informing the public of its impacts, and developing measures to mitigate such impacts.	
311	84	Alternative 5a is Unlawful to Apply to Water Users with Senior Rights. The rationale for Term 91 is to (a) prevent water users from diverting water previously stored by the CVP and the SWP (collectively, the Projects) and to (b) prevent water users junior to the Projects from diverting natural flows contributing to Delta flow and water quality requirements. But Term 91 has no applicability to EBMUD on the Mokelumne River, for two reasons. First, the Mokelumne is not a Project river, meaning that there are no Project facilities located on the Mokelumne River. Thus, there is no physical way for EBMUD to divert previously stored Project water on the Mokelumne River, as there is no such water on the Mokelumne. Second, EBMUD's Mokelumne rights are senior to the Projects' water rights. Thus, EBMUD does not fall within the scope of Term 91, as it has been applied by the State Water Board to date to apply only to junior diverters. [Footnote 86: Id. at p. 7.2-12.] The State Water Board's practice to date, of applying Term 91 only to water right users junior to the Projects, is consistent with seniority, a central tenet of California water law. But to do as the Draft Staff Report proposes in Alternative 5a, to apply Term 91 to water right holders senior to the Projects, is to reverse priorities, elevating the junior Projects above more senior water right holders. That is inconsistent with California water law and would be unlawful. Thus, Alternative 5a cannot feasibly be legally implemented against water right holders senior to the Projects.	As described in the 2023 draft Staff Report Section 7.2.3.6, Modular Drought Alternatives (Alternatives 5a and 5b), Alternative 5a would expand a Term 91-type approach to other more senior water right holders and claimants. Alternative 5a was described as a Term-91-type approach to highlight that it would not necessarily be implemented in the exact same manner as Term 91. 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.
311	85	Alternative 5b – "Shared Water Shortage" Provision Alternative 5b's Stated Rationale Is Incorrect As Applied to the Mokelumne River Because EBMUD Already Provides Flows to the Bay-Delta. Under Alternative 5b, all water right holders in the Delta	The description of Alternative 5b in Section 7.2, Description of Alternatives, of the 2023 draft Staff Report did not include a general exemption for water users that are already subject to flow requirements; however, if the Board moves forward with Alternative 5b, additional implementation provisions would need to be provided, including how to account for existing flow contributions from responsible parties such as EBMUD. At a

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		watershed would be required to reduce their consumption by a set percentage (e.g., 20 percent) during droughts to help contribute toward meeting the Bay-Delta objectives. [Footnote 87: Id. At p. 7.2-13.] As part of the rationale for this proposed alternative, the draft Staff Report states that all water users would have an obligation to contribute to water quality and flow in the Delta, and that these obligations “would not be the sole responsibility of the Projects as currently required under D-1641.” [Footnote 88: Ibid. (emphasis added).] EBMUD notes at the outset that this rationale is inaccurate if applied to EBMUD, because, as noted above, in D-1641 the State Water Board modified EBMUD’s rights to require the release of the JSA flows, and found that those flows “would provide additional flows to the Delta.” [Footnote 89: D-1641, p. 58. For additional information, see Section I (Background) above.] Thus, the rationale for Alternative 5b fails to support the alternative’s imposition on EBMUD, as EBMUD already provides flows to the Delta as required by D-1641.	minimum, water users could submit proposed implementation plans consistent with the local cooperative solutions (referred to as voluntary implementation plans in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta) that acknowledge existing contributions to Delta outflow, water conservation efforts that provide fish benefits, and/or other reductions in consumptive use, which collectively could be accounted for when determining credit toward the percent reduction of consumptive use of water required by the provision.
311	86	Alternative 5b is Not Adequately Described or Analyzed as CEQA Requires. Alternative 5b is not described in the draft Staff Report with the degree of specificity needed for the public to ascertain what it is and how it would be implemented. In Exhibit A [ATT 1] to this letter, EBMUD raises a number of basic questions about the alternative which the draft Staff Report simply does not address. (See e.g., Exhibit A [ATT 1], Comment 38.) This is a defect under CEQA. And there is virtually no environmental analysis of the alternative’s potentially significant environmental impacts, as the brief analysis of impacts in Section 7.24.6.2 of the draft Staff Report is not specific and does not contain quantitative analysis. And, similar to Alternative 5a, there is no quantitative analysis of impacts associated with implementing alternative 5b in combination with other alternatives. Finally, the draft Staff Report contains no analysis of the impacts resulting from the imposition of Alternative 5b upon EBMUD, such that the draft Staff Report cannot serve as the environmental documentation supporting the imposition of the alternative upon EBMUD.	The 2023 draft Staff Report described the modular drought alternatives in Section 7.2, Description of Alternatives, with sufficient detail for the purposes of the analysis. These alternatives were adequately analyzed in Section 7.24.6, Modular Drought Alternatives (Alternative 5a and 5b), of the 2023 draft Staff Report. Please see Common Response 7.24, Alternatives Analysis, for more information on the description and analysis of alternatives. As discussed in Section 7.24.1, Introduction, the modular alternatives could be layered onto the stand-alone alternatives, and the environmental impacts of each of the modular alternatives are evaluated in isolation compared with existing conditions to properly characterize the changes that could occur from each modular alternative, as distinguished from impacts of the stand-alone alternatives. Also see Common Response 7.1, General CEQA and Approach to the Analysis, for information on the level and scope of the analysis.

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311	87	Alternative 5b Penalizes Agencies Who Have Already Implemented Water Conservation and Fishery Flow Releases. While Alternative 5b speaks in terms of requiring agencies to conserve water, [Footnote 90: Draft Staff Report, pp. 7.2-13 and 7.24-49.] it makes no distinction between agencies that have been aggressively implementing water conservation measures for decades, as EBMUD] has, and those that have not. It instead requires them all to cut back by the same flat rate. This approach penalizes those agencies that have already made investments in water use efficiency. EBMUD has invested over \$100 million in water demand management since the 1970s, including robust water conservation and water recycling programs. As a result, its per capita water use has declined significantly. It would be inequitable to expect EBMUD to reduce its water consumption during a drought by the same flat rate percentage as an agency that has not invested in water conservation. (For more information on this point, please see Exhibit A [ATT 1], Comment 41.) Similarly, Alternative 5b does not recognize that some agencies are already contributing flows that aid the Delta, while others are not. Those agencies making required flow releases to aid the Delta have already seen their ability to divert water reduced by virtue of the flows they must release. By proposing to apply a flat percentage reduction in water consumption across-the-board, without regard to existing flow release requirements, the draft Staff Report in Alternative 5b would effectively penalize those agencies that are already helping with flow contributions. That is simply bad public policy.	Please see the response to comment 311-85.
311	88	The Draft Staff Report Inaccurately Describes the Mokelumne River VA. The Draft Staff Report also contains inaccuracies in its description of the Mokelumne River VA proposal. EBMUD's comment letter on the Final Draft SBR Supplement (Exhibit E [ATT 5] hereto) provides detailed information about the Mokelumne River VA proposal, as does section 2.7 of the VA Draft Strategic Plan which is included in the Draft Staff Report as Appendix G1.	It is unclear from the comment how the commenter believes the description in the 2023 draft Staff Report is inaccurate or what specific changes the commenter is recommending.

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		First, the Draft Staff Report inaccurately states the nature and timing of EBMUD's proposed VA flow contribution. Table 9.3-1 shows Mokelumne River VA flow assets of 5, 5, and 7 TAF in dry, below normal, and above normal years, respectively. [Footnote 91: Id. at p. 9-4.] The table inaccurately describes these flows as based on "Mokelumne Water Year Type." [Footnote 92: Ibid.] EBMUD's VA proposal is defined in the Draft Strategic Plan for the Proposed Agreements to Support Healthy Rivers and Landscapes, which is included as Appendix G1 to the Draft Staff Report. As that document explains, under the VA Term Sheet, EBMUD would operate to provide VA releases above existing minimum flows from Camanche Dam of 10 TAF, 20 TAF, and 45 TAF in "Dry," "Below Normal" (BN), and "Normal and Above" (AN) modified JSA year types, respectively. These VA flows are above existing JSA and D-1641 requirements. EBMUD will work with DWR to refine modeling used to develop the average long-term contributions of VA flows from the Mokelumne River shown in Table 4-8 of the Final Draft SBR Supplement. [Footnote 93: See Draft Staff Report, Appendix G1 (Draft Strategic Plan) at § 2.7.3, pp. 33-34; see also Exhibit E at Att. 1, Comment 18.] If the modeling indicates a shortfall relative to the flow assets defined in Table 4-1 of the Final Draft SBR Supplement for a given Sacramento River Index year type (Dry: 5 TAF; BN: 5 TAF; AN: 7 TAF), EBMUD would contribute funding towards the purchase of the remaining volume difference when that Sacramento year type occurs during the eight-year term of the agreement, in lieu of making additional releases from Camanche Dam.	
311	89	Second, the Draft Staff Report incorrectly assumes that if the VA alternative is implemented, the water users will revert to the proposed Plan amendments after eight years of VA implementation. That assumption is contrary to the Memorandum of Understanding (MOU) signed by the Secretary of Environmental Protection and other State officials. [Footnote 94: Draft Staff Report, Appx. G1, "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" dated March 29, 2022.] The Term Sheet attached to the MOU establishes a "green-yellow-red" process to evaluate the success of the VA's initial	The State Water Board is not a signatory to the VA Memorandum of Understanding and is not bound by its terms. Please see Common Response 1.3, Revised Proposed Plan Amendments, for information on the continuation, modification, or termination of the VA pathway.

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		term and to select a regulatory approach for the following years. The MOU provides for the VAs to be left in place beyond Year 8 if the evaluation results in a “yellow” or “green” determination. [Footnote 95: Draft Staff Report, Appx. G1, “Term Sheet for Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan,” (Term Sheet) March 29, 2022, § 7.4(B)(i)-(ii).] Even in a “red” scenario, it is not assured (or even necessarily likely) that water rights holders would consequently become subject to the unimpaired flow and cold water habitat objectives currently proposed in the Draft Staff Report. To the contrary, the MOU explains a “new” or “additional” “pathway” would be needed, and to that end, upon a “red” determination, the VA parties may present “new agreements,” or alternatively the State Water Board may initiate “regulatory processes” to implement alternative provisions of the Bay-Delta Plan’s Program of Implementation against the VA parties. [Footnote 96: Id. at §§ 1.4(C) and 7.4(B)(iii).] The Draft Staff Report should describe and analyze the VA alternative in years following Year 8 in a manner consistent with the process described in the MOU.	
311	90a	The Modeling Relied Upon by the State Water Board to Conduct Hydrologic and Environmental Analysis on the Mokelumne River for the Draft Staff Report is not Credible and Cannot Form the Basis of Substantial Evidence in Support of the Proposed Plan Amendments. There are numerous problems with the SacWAM modeling relied upon by the State Water Board to conduct hydrologic and environmental analysis in the Draft Staff Report. SacWAM does not accurately represent EBMUD’s water supply system, operations, or the Mokelumne River. The inaccuracy of the SacWAM model, coupled with the significant errors and inconsistencies in the documentation identified by EBMUD, render the analysis not credible, unreliable, and fatally flawed. As a result, the hydrologic and environmental analysis in the Draft Staff Report that is based upon SacWAM modeling, as it pertains to the Mokelumne River, cannot be used either as the basis to assess potentially significant environmental effects on the river or the effectiveness of proposed mitigation measures under CEQA. Furthermore, any of the Draft Staff Report’s purported analysis of the Mokelumne River based upon said flawed	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding the scope, scale, and application of SacWAM, and for a discussion of Mokelumne River model representation and operations.

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		modeling does not constitute substantial evidence supporting the proposed Plan amendments.	
311	90b	The use of a model with a monthly timestep creates additional problems in the analysis of habitat. This temporal resolution completely dilutes the magnitude and duration of designed pulse flows on a smaller river like the Mokelumne. The monthly timestep – combined with the “Meaningful Floodplain Event” approach – also introduces significant errors in the analysis, by making it appear that there are fewer adequate floodplain inundation events than there actually are. Floodplain inundation events for the Mokelumne have been planned based on actual, peer- reviewed science; [Footnote 97: See Grosholz and Gallo, 2006, which is included within Exhibit G.[Attachment 7]] however, when these events are spread over a two month period due to the model’s monthly timestep, the analysis falsely determines that there is no MFE increase in the Mokelumne VA flows, but this is really an artifact of the model’s own constraints. Please see Exhibit B [ATT 2] for EBMUD’s full comments on the flawed SacWAM flow modeling, which we incorporate into this letter by reference. In addition, Comment 143 in Exhibit A [ATT 1] provides more detail on the problems with the State Water Board’s habitat modeling.	Please see Section 1.3.1.8, Hydrology and Operations Modeling, 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 response to comments received on the January 2023 Draft Scientific Basis Report Supplement suggesting that a monthly timestep was not sufficient to capture sub-monthly benefits of the VA assets. In addition, the VA parties did not release sub-monthly schedules for VA flow releases. The default VA flow schedules included in the draft VA Strategic Plan in Appendix G1, Voluntary Agreement Proposal, of the 2023 draft Staff Report have a monthly timestep. Furthermore, as described in Appendix G2 of the 2023 draft Staff Report, the MFE analysis used a conservative approach so suitable habitat would be guaranteed.
311	91	Tribal Engagement EBMUD supports a Bay-Delta process that includes robust tribal engagement. EBMUD has also begun outreach to tribal interests in the Mokelumne River watershed regarding the Mokelumne VA proposal and how they might be involved in tributary and/or systemwide governance. We encourage the State Water Board to continue and improve its outreach to tribes throughout California who may be impacted by the Bay-Delta plan.	The State Water Board appreciates EBMUD’s efforts to engage California Native American Tribes on the Mokelumne River VA. The project has been revised. The revised proposed Plan amendments requires HRL participants to engage with California Native American Tribes and consider their input in decision-making affecting HRL Governance, including but not limited to tribal participation in the HRL science committee. Additionally, HRL participants will be required to develop a tribal engagement plan in coordination with tribes, describing specific tribal engagement opportunities related to VA pathway milestones that must be approved by the Executive Director prior to year one of the initial 8-year term of the VA pathway. Active and productive engagement with tribes on VA pathway implementation has the potential to improve HRL commitments and processes and increase the likelihood of successful outcomes overall.
311	92	The Voluntary Agreements Are a Better Alternative.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not

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		As described above, the proposed Plan amendments, Low Flow Alternative, and High Flow Alternative would impose unreasonable impacts on EBMUD, its customers, and the Mokelumne River fishery, and jeopardize progress on numerous statewide priorities (e.g., groundwater sustainability, housing, affordability, greenhouse gas reduction). On the contrary, the proposed Mokelumne River VA is reasonable and balanced. It would equate to a reasonable contribution to supporting the objectives of the Bay-Delta Plan, while also protecting EBMUD, its customers, and the Mokelumne River from severe impacts. We urge the State Water Board to move forward with the VAs, as they represent the best opportunity to secure immediate and lasting improvements in the Bay-Delta without sacrificing other state priorities.	raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
311	93	[ATT 1:] [Reference:] Tables 1-1, 1-2, 7.1-2, 7.21-1, 7.21-2, Impact and Mitigation Summary Tables [Comment:] These tables summarize potential project impacts, significance levels, and potential mitigation measures. No CEQA assessment is provided in these tables or the document to describe the effectiveness of these potential mitigation measures to reduce the project impacts to less than significant levels.	Please see Common Response 7.1, General CEQA and Approach to the Analysis, regarding mitigation measures.
311	94	[ATT 1:] [Reference:] Table 1-1 Impact and Mitigation Summary of Air Quality Impacts. “Water conservation could result in a reduction in emissions” [Comment:] Given that the listed potentially significant impact is that “Increased groundwater pumping using diesel pumps and generators could result in emissions,” it is unlikely and not justified to indicate that the proposed Plan amendments, Alternatives 2 and 3 would have beneficial impacts to air quality, as stated in the table. The opposite would instead be true, given the increased emissions from pumps and generators. Also, water conservation would be required for all alternatives, including VAs.	The comment assertion that the draft Staff Report concludes air quality impacts of the proposed Plan amendments and alternatives are beneficial is not consistent with the information presented in Section 7.5, Air Quality, and Chapter 1, Executive Summary, of the Staff Report. Impact AQ-a-b-c in Section 7.5 evaluates the potential for the proposed Plan amendments to conflict with applicable air quality plans, contribute to NAAQS and CAAQS violations, and result in project-level and cumulative air quality impacts. The impact analysis considers a wide range of foreseeable compliance measures and responses that may result from the proposed Plan amendments, including changes in flows and reservoir levels, reduced agricultural water supply, post-harvest rice burning, increased groundwater pumping, and water conservation. The potential for each of these emissions generating activities to result in an air quality impact is assessed under Impact AQ-a-b-c, and resulting impact conclusions are summarized in Table 1-1 in Chapter 1 of the Staff Report. As shown in Table 1-1 and discussed under Impact AQ-a-b-c,

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			implementation of water conservation measures could lead to energy savings, resulting in reduced emissions. Thus, the air quality impact of water conservation measures would be beneficial. All other emissions generating activities except increased groundwater pumping are found to have a less-than-significant air quality impact. As reported in Table 1-1 and under Impact AQ-a-b-c, the air quality impact of increased groundwater pumping would be potentially significant and Mitigation Measure MM-AQ-a-c would be required. The potential for Alternatives 2 and 3 to result in a potentially significant air quality impact from increased groundwater pumping is likewise recognized in Section 7.24, Alternatives Analysis, of the Staff Report.
311	95	[ATT 1:] [Reference:] Table 1-1 Impact and Mitigation Summary. “Changes in Delta inflows and outflows would benefit native anadromous, estuarine, and resident fish species. Increased frequency and duration of floodplain inundation in Feather River and Yolo Bypass would benefit aquatic species” [Comment:] These are listed as beneficial impacts of the proposed plan amendments, but they could be similarly included as beneficial impacts for the VAs in Table 1-2.	The beneficial effects have been added for the VA pathway. This revision does not change the impact or benefit conclusions.
311	96	[ATT 1:] [Reference:] Table 1-1 “A more natural flow regime could contribute to the restoration of beneficial geomorphic processes (i.e., those that clean fine sediment from spawning gravels, maintain a diversity of bed forms, and help maintain functional floodplain and riparian habitats through floodplain inundation). Changes in Delta inflows would provide for floodplain inundation to benefit native species” [Comment:] These are listed as beneficial impacts of the proposed Plan amendments, but they could be similarly included as beneficial impacts of pulse flows and floodplain inundation for the VAs in Table 1-2.	The requested benefits have been added to the VA pathway in the relevant summary tables. These revisions do not change the impact or benefit conclusions.
311	97	[ATT 1:] [Reference:] Table 1-1, p. 1-45 This is listed as a beneficial impact for utilities:	Groundwater storage and recovery, water transfers, recycling, conservation, and more are all needed to accommodate the State’s future population growth and climate change while

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		“Other water management actions (groundwater storage and recovery, water transfers, water recycling, water conservation) could contribute to meeting water demands for municipal use” [Comment:] This item is questionably listed as a beneficial impact, when it is more accurately characterized as a necessary mitigation for the significant impacts to water supply utilities that would be posed by the proposed Plan amendments. Many of these actions are costly and would require water suppliers to raise rates.	preserving and restoring its impacted aquatic wildlife resources. To the extent that municipal water providers consider and implement these actions in their water supply portfolios, the impact is both beneficial and necessary. See also Common Response 8.1, Economic Analysis and Other Considerations, regarding regional economic analysis, estimates of potential effects, and funding opportunities.
311	98	[ATT 1:] [Reference:] Section 2.2.7.1 “Pardee and Camanche Reservoirs, located on the mainstem Mokelumne River, are operated by East Bay Municipal Utility District (EBMUD) with the purposes of flood control, urban uses, and hydropower generation.” [Comment:] Under the terms of EBMUD’s 1998 Joint Settlement Agreement, EBMUD also operates these reservoirs to provide minimum instream flows to benefit the Mokelumne River fishery. In addition, EBMUD makes releases to benefit downstream water rights holders who use water for urban and agricultural uses. This sentence should be amended to read, “...with the purposes of flood control, meeting instream flow requirements, urban and agricultural uses, fish and wildlife protection, hydropower generation, and recreation.”	The final Staff Report language has been modified to reflect the suggested additional information.
311	99	[ATT 1:] [Reference:] Table 2.1-1, page 2-16 AND Table 2.1-1, Appendix (also) page 2-16 [Comment:] First, the two tables appear to represent the same information, yet the 6th column “Average Annual Stream Gain/Loss (TAF/yr)” differs in the two tables, 47 versus 75, respectively. A third and yet different number is presented in the SacWAM documentation on page 6-61 4th sentence of the 1st paragraph, “... with the greatest loss (91 TAF/year) occurring along the Mokelumne River upstream of its confluence with the Cosumnes River.” Second, the 4th column seems to be in error, which is stated as the Total Storage as modeled in SacWAM (TAF)	Stream gains and losses are particularly challenging to estimate because they cannot be directly measured. The different estimates for stream losses on the Mokelumne River reflect the refinements to hydrologic modeling made over time throughout the development of the Staff Report. The Draft Scientific Basis Report was released in 2017 along with the accompanying SacWAM, which is presented in 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 Staff Report. In the 2017 release of SacWAM (which is listed as the source of the data for

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		equal to 998 TAF. This figure appears to be an overestimate. Furthermore, it would be helpful if the definition in the table footnote “b” clarified the definition of the seepage/loss term. The header in the 6th column of the table is “Average Annual Stream Gain/Loss to GW” where GW is an abbreviation for groundwater yet it is unclear whether Camanche Reservoir seepage loss to the groundwater basin is included in this estimate. The footnote simply states, “b As estimated in SacWAM (^SacWAM 2023).” which includes the citation to the manual. The SacWAM manual provides no explicit reference or additional documentation of seepage losses for Camanche Reservoir to the groundwater basin.	Table 2.1.1 in the Scientific Basis Report), it estimated that 75 TAF/yr was lost to groundwater on the Mokelumne River. SacWAM was refined between 2017 and 2023 with help from East Bay Municipal Utility District staff, resulting in a new calculation estimating a loss of 47 TAF/yr, which is presented in Chapter 2, Hydrology and Water Supply, of the draft Staff Report. Finally, the loss value presented in the SacWAM Documentation (available on the State Water Board’s Bay-Delta webpage) presents the results from the C2VSIM model that was used to inform the initial stream-groundwater interactions in SacWAM.
311	100	[ATT 1:] [Reference:] Page 2-62 “Reservoir operations and diversions on the Mokelumne River have reduced the simulated current flows to below 23 percent of the unimpaired January through June flows in 50 percent of the years.” [Comment:] While spring flows are important for supporting fish in the Delta, there are other key time periods that EBMUD manages for. For example, EBMUD often uses pulse flows in September and October for attraction. Based on EBMUD’s experience in the Mokelumne, a broader, more holistic approach is needed to improve ecosystem conditions and fish returns.	The State Water Board acknowledges the important efforts of EBMUD to manage the flows of the lower Mokelumne River for fish (salmonid) attraction. 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.
311	101	[ATT 1:] [Reference:] Page 2-62, 2nd paragraph, last sentence “The Middle and South Forks of the Mokelumne River remain largely undeveloped.” [Comment:] This passage would benefit from clarification that the middle fork is somewhat “impaired” because of diversions from the stream and with Schaads Reservoir at its headwaters. Diversions on the middle fork Mokelumne are documented in the SacWAM manual on page “6-7 - September 2003”.	While there are relatively minor diversions and a small reservoir on the Middle Fork Mokelumne, the small size of these projects does not have a large effect on the impairment of the watershed. 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.
311	102	[ATT 1:] [Reference:] Page 2-62, 3rd paragraph, 1st sentence, “... with the purposes of flood control, urban uses, and hydropower generation.”	The final Staff Report language has been modified to reflect the suggested additional information.

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		[Comment:] Suggest that recreation be added as a designated “purpose” for the Mokelumne reservoirs in this list.	
311	103	[ATT 1:] [Reference:] 2.7 Existing and Future Water Rights in the Sacramento/Delta Watershed, pages 2-120 to 2-121 [Comment:] This section is biased in how it describes the SWP and CVP. For example, it states: “Responsibility for meeting the existing Bay-Delta Plan objectives falls primarily on only two water right holders in the watershed: DWR and Reclamation for the SWP and CVP, respectively.” This statement should be corrected to add that, in D-1641, the State Water Board also added flow requirements to EBMUD’s Mokelumne River water rights requiring it to release flows for the Bay-Delta as well. (See EBMUD comment letter, Section I.B.) And it also states: “Exhaustion of these supplies is exacerbated during drought conditions due to the focused responsibility of DWR and Reclamation to meet these requirements rather than those obligations being distributed broadly over the watershed.” The text discusses the harm to the CVP and SWP that they must make releases of stored water; however, other water users would likely face similar harms if they were required to release stored water during droughts.	The 2023 draft Staff Report’s statement that responsibility for meeting the existing Bay-Delta Plan objectives falls primarily on DWR and Reclamation is correct. However, the commenter misses the words “primarily on only two” indicating that DWR for the SWP and Reclamation for the CPV are the primary parties responsible for meeting existing Bay-Delta Plan objectives. It does not indicate that these two are the only entities with flow-related obligations in the Bay-Delta watershed. For example, Decision 1641 includes flow requirements applicable to other water right holders, including EBMUD’s Mokelumne River water rights. The draft Staff Report also recognizes that releasing stored water can affect reservoir operators and water users more broadly, and evaluates changes in reservoir storage and water supply across tributaries and regions.
311	104	[ATT 1:] [Reference:] 2.8.4 San Francisco Bay Area, page 2-134 “Additional diversions from the western Delta serve EBMUD and Antioch.” [Comment:] The text overstates EBMUD’s use/reliance on this Delta source. EBMUD shares a limited water right for use within the Delta for irrigation purposes on parcels in East Contra Costa County.	As described in Section 2.8.4, San Francisco Bay Area, of the 2023 draft Staff Report (p. 2-134), EBMUD and the San Francisco Public Utilities Commission import approximately 38 percent of the region’s average annual water supply from the Mokelumne River (201 TAF) and Tuolumne River (250 TAF), respectively. Data related to EBMUD’s water usage from the western Delta included in the draft Staff Report is cited from the East Bay Municipal Utility District’s Urban Water Management Plan 2020.
311	105	[ATT 1:] [Reference:] 2.8.4 San Francisco Bay Area, page 2-134 In total, approximately 28 percent of the region’s total supply is imported via the CVP and SWP, approximately 31 percent is provided from local groundwater and surface water, and approximately 3 percent is provided from other sources (e.g., harvested rainwater, recycled water) (^DWR 2014). SacWAM	Chapter 2 of the Staff Report, Hydrology and Water Supply, describes the existing hydrology and water use in the plan area. Chapter 6 of the Staff Report, Changes in Hydrology and Water Supply, describes the changes to water supply to each region in the study area, including the San Francisco Bay Area region. Please see Common Response 6.1, Sacramento Water Allocation

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		estimates total SWP deliveries to the Bay Area of 198 TAF/yr on... [Comment:] Using region-wide averages hides impacts to individual agencies. There should be a sentence that acknowledges this problem. For example, on pg. 6-101, the draft Staff Report acknowledges that resulting supply decreases are not uniform, and actually uses EBMUD as an example (45% reduction in supply under the 55 UIF scenario).	Model and Changes in Hydrology and Water Supply, for a discussion on the level of detail of the analysis.
311	106	[ATT 1:] [Reference:] Page 2-135 “Per-capita residential water use in the Bay Area is relatively low due to high water rates, cool climate, and small lot sizes.” [Comment:] In many cases the low per-capita residential use is due to agencies’ investments in water conservation. For example, EBMUD has been implementing customer demand management since the 1970s and has spent about \$100 million on conservation programs including rebates and incentives, leak detection and water management services, and education and outreach.	The final Staff Report language has been modified to reflect the suggested additional information.
311	107	[ATT 1:] [Reference:] Page 2-136 [Comment:] Note that EBMUD’s CVP contract allows it to take CVP water only during dry years when EBMUD’s estimated end of season total system storage falls below 500 TAF.	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.
311	108	[ATT 1:] [Reference:] Page 2-136, 2nd paragraph, 2nd to last sentence, “... CVP water that can be delivered through the Folsom South Canal from the American River.” [Comment:] Diversions to EBMUD are via the Freeport Regional Water Project intake on the Sacramento River and not taken directly from the American River. The wording in this passage is confusing and implies the diversion is directly to the Folsom South Canal from the American River. It is not.	The final Staff Report reflects these suggested changes.

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311	109	[ATT 1:] [Reference:] Page 2-143 4th paragraph, “These differences are largest for tributaries such as the Mokelumne River, Putah Creek, and Cache Creek, where flows are less than 28 percent, 14 percent, and 53 percent of unimpaired flow in half of the years, respectively.” [Comment:] The 28% conflicts with the 23% used on page 2-62.	The text here should have read 23 percent as on page 2-62; the inconsistency has been corrected in the final Staff Report.
311	110	[ATT 1:] [Reference:] 3.4.3.5 fall run Chinook salmon “Natural production of fall-run Chinook salmon in the mainstem Sacramento River has declined since the CVPIA baseline years of 1967 through 1991; average natural production in the mainstem Sacramento River between 1992 and 2015 was about 57 percent of the baseline period (Figure 3.4-10). Average natural production of fall-run Chinook salmon in the San Joaquin River basin (Stanislaus, Tuolumne, and Merced Rivers) from 1992 through 2015 declined approximately 55 percent since the CVPIA baseline years (Figure 3.4-11).” [Comment:] This includes data through 2014 only, and only Sacramento and San Joaquin Rivers. This does not list data for the Mokelumne. It should also be noted that the draft Staff Report references the AFRP doubling tables, which are not indicative of natural production.	See Common Response 3.1, Fish Protection, for a discussion of data sources and use of best available science.
311	111	[ATT 1:] [Reference:] Section 3.4.3.6 “Critical habitat was designated in September 2005. It includes the Sacramento and San Joaquin Rivers and Delta and numerous tributaries (up to the first known natural or constructed barrier), including the Feather, Yuba, and American Rivers and Deer, Mill, Battle, Antelope, and Clear Creeks in the Sacramento River basin; and the Mokelumne, Calaveras, Stanislaus, Tuolumne, and Merced Rivers in the San Joaquin River basin (70 Fed. Reg. 52488)” [Comment:] In the last paragraph, the Mokelumne River is incorrectly listed as part of the San Joaquin Basin. Instead, it is commonly referred to as one of the three eastside tributaries, along with the Calaveras and Cosumnes Rivers. In fact, in other	The Mokelumne River is on the east side of the Delta. It is shared between the San Joaquin basin and Sacramento basin and for most of the Staff Report it is referred to as an eastside tributary. For the discussion of the critical habitat designation for the Central Valley Steelhead DPS, Mokelumne River is referenced as a part of San Joaquin River Basin because in 70 Federal Register 52488 the unit for designation is defined as two partial CALWATER Hydrologic Units: “North Valley Floor Hydrologic Unit 5531—(i) Lower Mokelumne Hydrologic Sub-area 553120. Outlet(s) = Mokelumne River (Lat 38.2104, Long -1121.3804) upstream to endpoint(s) in: Mokelumne River (38.2263, -1121.0241); Murphy Creek (38.2491, -1121.0119)” and “San Joaquin Delta Hydrologic Unit 5544— San Joaquin Delta Hydrologic Sub-area 554400. Outlet(s) = San Joaquin River (Lat 38.0246, Long -1121.7471) upstream to endpoint(s)

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		parts of the draft Staff Report, it is so referred to as one of “the three eastside tributaries to the Delta.” (Draft Staff Report, page 2-1.)	in:...Mokelumne River (38.2104, -1121.3804)...North Mokelumne River (38.2274, -1121.4918).”
311	112	[ATT 1:] [Reference:] Table 3.4-6 Salmon Returns on the Mokelumne River p 3-40 [Comment:] Typo for last year of returns—should read 2011.	The suggested edit to Table 3.4-6 has been made in the final Staff Report.
311	113	[ATT 1:] [Reference:] Section 3.12 Nonnative Fish Species (5th-6th Paragraphs) “There is a positive correlation between the survival of striped bass eggs through their first summer and Delta outflow between April and June (^Kimmerer 2002b; Kimmerer et al. 2009). Population abundance indices from the TNS, FMWT, Bay Midwater Trawl and Otter Trawl indices are also positively correlated with Delta outflow in spring (Kimmerer et al. 2009). In each case, higher Delta outflows in spring result in larger index values. The size of the striped bass population has undergone a long-term decline since the 1970s and is one of the four pelagic species that underwent a further decrease in population size around 2000 (Herbold et al. 1992; ^Sommer et al. 2007). An increase in Delta outflow in spring is predicted to increase the population abundance of striped bass and American shad, two important sport fish in the Bay-Delta estuary.” [Comment:] The fact that increased delta outflow will help increase the Striped Bass population seems problematic from a fisheries perspective, because Striped Bass are non-native predators of juvenile anadromous fish. This statement therefore seems worthy of further investigation, and the Draft Staff Report should discuss how this would affect the subsequent salmonid populations that migrate through the Delta environment in the spring.	See Common Response 3.1, Fish Protection, on flow-benefit analyses. Please also see Chapter 4, Other Aquatic Ecosystem Stressors for a discussion on nonnative species. In recognition that predation on juvenile salmonids in the Bay-Delta remains a challenging issue, Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, Section 5.6.1.3, Proposed Changes to Monitoring, Assessment, Special Studies, and Reporting of the Staff Report has been updated to emphasize that monitoring of nonnative species should also occur, specifically within the context of understanding the interactions between management actions and native fish abundances.
311	114	[ATT 1:] [Reference:] Table 3.14-8, pp. 3-126 to 3-127. Change in Median (across All Years Modeled) Spawning Habitat from Baseline for Each Flow Scenario “Many of the Sacramento River tributaries show no change in suitable spawning habitat area across the flow scenarios	The flow to suitable habitat relationships used in the salmonid tributary habitat analyses for the Mokelumne River were provided by EBMUD. The relationship of flow to habitat is tributary and reach-dependent and in this case was reliant on the expert opinion of EBMUD. The methods and flow-habitat relationships for this analysis were the same as the Scientific Basis Report Supplement, as described in Section 3.14.2, Salmon

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		analyzed... On the Feather River and Sacramento River, there is an inverse relationship where suitable spawning habitat is highest under the baseline conditions and lowest under the 75 scenario due to an inverse relationship in the flow to spawning habitat area curves in the flow ranges analyzed for these watersheds.” [Comment:] In this analysis, the tabular and graphical data show that spawning habitat in the Mokelumne River is not positively or negatively affected by increasing flows. This seems to show a flaw in the model. The quantification of suitable spawning habitat is based on water velocity and water depth. As flows increase, the suitable spawning habitat should either increase or decrease (as seen in the analysis of the other rivers), thus it seems as though the model may not truly incorporate the true dynamics of spawning habitat availability in the Mokelumne River. If it is true that increased flow does not equate to positive changes in spawning habitat, and in fact may degrade suitable spawning habitat, then this result should be discussed in the text, including a description of what this means in terms of the potential benefits (or lack thereof) of the percent of unimpaired flow alternatives.	Tributary Habitat Analyses, of the 2023 draft Staff Report. Spawning habitat did not change significantly across the flow scenarios because lower Mokelumne River flows during the spawning period (Oct – Dec) did not change appreciably across the flow scenarios, as described in Section 6.3.1.1, Sacramento River Region and Delta Eastside Tributaries, of the 2023 draft Staff Report. Discussing the implications of the analytical findings at this level of detail is beyond the scope of the analytical granularity in Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, and would not change the conclusions. See Common Response 3.1, Fish Protection, for instructions on interpreting the results of the habitat analyses and how they are not sufficient on their own to quantify the benefits of increased tributary flows.
311	115	[ATT 1:] [Reference:] Figure 3.14-14. Median (across All Years Modeled) Rearing Habitat (acres) for Each Watershed, Including Both Floodplain and Instream Rearing Habitat Table 3.14-9. Change in Median (across All Years Modeled) Rearing (Instream and Floodplain) Habitat from Baseline for Each Flow Scenario [Comment:] The results for the Mokelumne River in Table 3.14-9 are inconsistent with the text description that, “On the American River, Mokelumne River, Sacramento River, and Stony Creek there is an inverse relationship where habitat is greatest under the baseline scenario and lowest under the 75 scenario due to an inverse relationship in the flow-to-instream rearing habitat area curves in the flow ranges analyzed for these watersheds,” as well as the results in Figure 3.14-14. The table erroneously indicates	This has now been fixed so the text, table, and figure are consistent. This revision does not change the impact or benefit conclusions.

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		that rearing habitat on the Mokelumne can increase between 17 to 70 acres in the unimpaired flow scenarios, whereas it should be a decrease from baseline.	
311	116	[ATT 1:] [Reference:] 3.14.2.1 Spawning and Rearing Habitat Subsection: Rearing Habitat Results “On the American River, Mokelumne River, Sacramento River, and Stony Creek there is an inverse relationship where habitat is greatest under the baseline scenario and lowest under the 75 scenario due to an inverse relationship in the flow-to-instream rearing habitat area curves in the flow ranges analyzed for these watersheds. Results for instream habitat alone can be found in Appendix A8, Salmonid Tributary Habitat Analysis.” [Comment:] The graph shows decreasing rearing habitat acreage, which matches the description in the text, however the table shows increasing rearing habitat acreage. The results of diminishing rearing habitat are further demonstrated in Appendix A8 - Salmonid Tributary Habitat Analysis in subsection A8.2.1 In-Stream Rearing Habitat. To summarize, the graphical and the tabular data are inconsistent (wrong), and if the modeled graphical outputs are to be considered the truth (correct outputs), then increasing flow (above baseline) will not deliver any more spawning habitat and leads to a decrease in the overall spawning habitat in the Mokelumne River. Thus, based solely on these model outputs, it is likely that increasing flow alone would put the Mokelumne further away from its doubling goal target.	This has now been fixed so the text, table, and figure are consistent. This revision does not change the impact or benefit conclusions. Please see the response to comment 311-114 and Common Response 3.1, Fish Protection, for instructions on interpreting the results of the salmonid tributary habitat analyses.
311	117	[ATT 1:] [Reference:] 5.3 Reason for the Proposed Plan Amendments, pg. 5-8 “Currently, most water users in the basin do not have limitations on their diversions to ensure that the Bay-Delta Plan objectives are met. Because of this limited responsibility, the Projects (the collective term for CVP and SWP) frequently release previously stored water to meet water quality objectives and supplement other water user demands in the watershed....” [Comment:] This statement is not accurate. The main	The quoted statement in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report does not define the “main responsibility of the Projects” so it is unclear how the statement is inaccurate. Implementation of the Plan would apply to diversions of natural and abandoned flows available at their priority of right, not to the release of stored water.

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		responsibility of the Projects is due to the junior priority of their water rights and the various agreements the Projects have made with senior water rights holders to avoid injury to those senior water rights users when the Projects are storing water. Requiring that other senior users limit diversions when the Projects are releasing water, as they are required to do, would undermine those agreements and injure senior water rights.	
311	118	[ATT 1:] [Reference:] 5.3 Reason for the Proposed Plan Amendments "While a limited number of junior water right holders include a provision in their water right permits and licenses (Standard Water Right Term 91) that limits their diversions when the Projects are providing water from storage to meet objectives in the Delta, most water users in the watershed currently are not subject to such provisions." [Comment:] It is questionable why this statement is included as a reason to update the Plan. As discussed above, the Projects have the main responsibility due to their junior water rights and the various agreements the Projects have made with senior water rights holders to avoid injury to those senior water rights users when the Projects are storing water. This statement and the statement immediately above (comment No. 25) in the draft Staff Report call into question the underlying reason for the proposed Plan amendments; is the intent behind the amendments to benefit the Bay-Delta fish and wildlife beneficial uses, or to shift existing water right responsibilities from the Projects to other water right holders? From these two statements in the draft Staff Report, it appears it is the latter purpose.	The purpose and goals of the Sacramento/Delta update to the Bay-Delta Plan are detailed in Section 7.1.3, Purpose and Goals of the Sacramento/Delta Update to the Bay-Delta Plan, of the Staff Report. Currently, pursuant to State Water Board Water Right Decision 1641 (D-1641), DWR's water rights for the SWP and Reclamation's water rights for the CVP are conditioned on backstopping specified flow-dependent water quality objectives included in the Bay-Delta Plan that have been in place since 1995 pursuant to an agreement to meet these requirements. At times, DWR and Reclamation meet the flow and water quality objectives by bypassing flows, reducing Delta diversions, or releasing previously stored water. The obligations to backstop the 1995 Bay-Delta Plan flow dependent objectives is due to a prior voluntary agreement by DWR and Reclamation to meet these objectives on an interim basis and not fully reflective of implementing the water right priority system, particularly when doing so requires releases of previously stored water. When natural and abandoned flows are inadequate to meet Delta flow and water quality requirements, 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. During drought conditions, these quantities of water can be significant and can deplete reservoir storage supplies needed for multiple purposes, including meeting water quality and temperature requirements later in the same year or in the following year. Requiring all water diverters to contribute to Delta flow requirements in order of priority would not shift responsibility from the Projects to senior water users, since the Projects would be curtailed before more senior water users and the Projects would maintain their existing D-1641 obligations. However, it would be expected to help to avoid the use of TUCPs

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			and may help to maintain cold water storage which would be expected to further the project purposes and goals related to protection of fish and wildlife beneficial uses. Further, DWR and Reclamation have not agreed to independently implement the Sacramento/Delta updates to the Bay-Delta Plan outside of their associated HRL commitments. Accordingly, the regulatory pathway is planned to be implemented consistent with water right priorities as described in Common Response 1.3.
311	119	[ATT 1:] [Reference:] 5.4.2.3 Proposed Inflow Objective, page 5-16 "Because 55 percent of unimpaired flow is the flow level at which more significant improvements to fish and wildlife beneficial uses are expected and cold water supplies can still be maintained, the proposed starting point for the flow level is 55 percent." [Comment:] There is no adequate quantitative or qualitative analysis to support this statement provided in the Staff Report for the Mokelumne River. EBMUD's independent modeling of the 55% of Unimpaired Flow alternative shows significant impacts to salmonids due to reductions in the Pardee and Camanche Reservoirs cold water pool that results in higher temperatures during spawning in the fall.	Please see Section 3.14, Evaluation of Bay-Delta Environmental Flow Effects, for both quantitative and qualitative analysis supporting the 55 flow scenario for obtaining Delta outflow levels necessary to protect estuarine species. Please also see Section 5.3, Reason for the Proposed Plan Amendments, for a discussion on the importance of flows on tributaries and the need to protect current conditions and also improve conditions in the larger Bay-Delta through coordinated watershed management. Please see Common Response 3.1, Fish Protection, for discussion on the importance of tributary flow to Delta outflow and the protection of estuarine species. The analysis of potential impacts to water temperature is provided in the impact analysis in Section 7.6.2, Aquatic Biological Resources.
311	120	[ATT 1:] [Reference:] 5.4.2.3 Proposed Inflow Objective, page 5-17 [Comment:] The SWRCB proposes a compliance point at the confluence of the Delta and the Mokelumne River. This can be problematic for the following reasons: (1) An existing flow monitoring record does not currently exist at the location. Therefore, a long-term record is also not available at the site. (2) Tidal effects at this location complicate flow monitoring. Hydrodynamics are very complex because of a variety of factors, including the confluence with the Cosumnes River immediately downstream as well as Dry Creek, the tidal influence of the Delta;	As described in Section 5.4.2.4, Implementation, of the 2023 draft Staff Report, compliance locations could be refined to account for gaging issues, including backwater effects and other factors. Please see Common Response 1.3, Revised Proposed Plan Amendments, for information on the regulatory pathway implementation of the inflow objective. Please also see the responses to comments 311-274 and 311-276 for information related to modeling below Woodbridge Dam.

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		and potential effects of diverted flow from the Sacramento River via the Delta Cross Channel. (3) The modeling assumptions for SacWAM regarding losses and diversions downstream of Woodbridge Dam may lead to an inaccurate flow assessment at this location used for the flow alternative constraint. More information on this is provided in EBMUD's Exhibit B on SacWAM modeling issues.	
311	121	[ATT 1:] [Reference:] 6.3.2.1 Sacramento River Watershed and Delta Eastside Tributaries Rim Reservoirs "Little change in carryover storage: Clear Lake (Figure 6.3-26) and Pardee Reservoirs show little change in storage. Clear Lake shows little change from baseline because it is a natural lake with limited control of reservoir level, and Pardee Reservoir shows little change in storage because Pardee Reservoir is operated to maintain storage while Camanche Reservoir downstream is more affected by changes in operation." [Comment:] It does not seem possible that EBMUD could be releasing more water into the river from its Mokelumne Project as a result of the proposed Plan amendments, but would somehow end up with either the same or greater storage under the 35, 45, 55, and 65 percent scenario and only minimal change in the 75% scenario. This is completely illogical and seems utterly incorrect, unless it is due to unacceptable reductions in diversions to EBMUD.	Increased spring streamflow on the Mokelumne River and the maintenance of cold water pool in Pardee and Camanche Reservoirs results in reductions in diversions from the Mokelumne River. These effects on diversions through the Mokelumne Aqueduct are described in Chapter 6, Changes in Hydrology and Water Supply.
311	122	[ATT 1:] [Reference:] Tables 6.3-10 and 11 pg. 6-49 [Comment:] The State Water Board's modeling is understating impacts to End of Season carryover storage. Under the 45% unimpaired flow scenario, the State Water Board is showing only a 3% reduction in total storage. EBMUD's modeling shows that with EBMUD at 45% unimpaired flow, the median impacts (50th percentile) are > 15% reduction under a 2020 Level of Development. Even worse, the State's analysis incorrectly indicates EBMUD would see an increase (2%) in carryover storage in critically dry	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for a response to comments about the modeling of Mokelumne River operations.

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		years. This is illogical, and in fact EBMUD's modeling shows significant decreases in these year types.	
311	123	[ATT 1:] [Reference:] Page 6-69 Table 6.4-16 see also Appendix A1 page A1-88 Table A1-57 see also Appendix G3, page G3a- 43 Table G3a-37. [Comment:] Please provide the context/classification reference for the year types used in these tables. The use of water year types indices for watershed(s) that are not inclusive of the Mokelumne Watershed would undermine the information value of such a summary tables. For example, if in a particular year the other watershed index is Below Normal but the Mokelumne specific watershed is Dry, and this year is sorted with other years in which there is a correspondence between Below Normal year types, the statistical breakdowns under a different year type classification would not be representative of a continuum of wet to dry conditions for the Mokelumne Watershed.	All of the tables listed in the comment are summarized by the Sacramento Valley water year type defined in D-1641. SacWAM uses the Mokelumne specific JSA water year type in the determination of JSA requirements, however the results are summarized in the Staff Report by Sacramento water year types to be consistent throughout the document.
311	124	[ATT 1:] [Reference:] Page 6-83 "It is anticipated that these other actions could be used in place of some portion of the reduction in Sacramento/Delta supplies that may result from the proposed Plan amendments." [Comment:] This is an erroneous assumption. Many of these water management actions take decades to develop and are prohibitively expensive. Some water management actions like transfers and groundwater banking would also become significantly less feasible under a percent of unimpaired flow alternative. For further detail, please see EBMUD's comment letter, Section VIII.B.	The impact conclusions made in the 2023 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 in some cases. As described in Section 6.6.1, Overview, of the 2023 draft Staff Report (p. 6-83), 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. However, potential responses can be described generally, with some quantification using agency water supply planning documents, modeling tools, historical and recent responses to drought, and other information. Please see Common Response 8.1, Economic Analysis and Other Considerations, regarding infrastructure requirements and time to implement measures as well as feasibility of transfers and alternative water supplies.
311	125	[ATT 1:] [Reference:] Page 6-84	Please refer to the response to comment 311-124.

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		“Decreases in Sacramento/Delta supplies could cause reductions in managed groundwater recharge and could affect planning for future increases in the volume of water recharged and extracted from aquifers. Even with new instream flow requirements that may limit surface water supplies, opportunities will remain for managed groundwater recharge from high-runoff events, treated wastewater, and stormwater.” [Comment:] The draft Staff Report does not do any quantitative analysis of whether groundwater banking would remain viable under a percent of unimpaired flow scenario (Proposed Plan Amendments, High Flow, or Low Flow Alternatives). Under these alternatives, there are supply shortages every year on the Mokelumne, and therefore there would not be opportunity to store excess flows.	See Section 7.12.2.3, Impact Analysis, of the 2023 draft Staff Report for the groundwater impact analysis, which includes scenarios for maximum replacement groundwater pumping and no replacement groundwater pumping.
311	126	[ATT 1:] [Reference:] Page 6-89 “It is difficult to predict with certainty how reduced Sacramento/Delta surface water supplies will affect water transfers” [Comment:] The draft Staff Report does not even try to quantify the impacts of a percent of unimpaired flow alternative on the water transfer market. However, transfers are still offered as part of “mitigation” for lost Sacramento/Delta supplies. This is highly problematic, as transfers are likely to become scarcer and more expensive, especially in Critically Dry years.	Please see Common Response 8.1, Economic Analysis and Other Considerations, for a discussion on water transfers under the proposed Plan amendments. Common Response 8.1 also provides supplemental information regarding water transfer availability and pricing that is relevant to Bay Area municipal water suppliers specifically.
311	127	[ATT 1:] [Reference:] Page 6-93, Urban Water Conservation [Comment:] The discussion of urban water conservation has numerous flaws. First, it conflates the kinds of emergency responses described in Water Shortage Contingency Plans – meant to respond to acute, temporary situations like droughts – with the kinds of programs that are required to achieve lasting, permanent water conservation. They are not the same. Second, this section does not recognize the high water use efficiency that has already been achieved in many parts of the state, which makes it difficult to achieve even more conservation (i.e., demand hardening).	Please see Common Response 7.20, Utilities and Service Systems, for discussion of how the Staff Report used information from Water Shortage Contingency Plans and further discussion of urban water conservation.

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311	128	[ATT 1:] [Reference:] Section 6.6.2.4 San Francisco Bay Area [Comment:] By conducting the analysis at only the regional scale and lumping all Bay Area water agencies together, the discussion in this section masks the severity of the impacts for some agencies. The text acknowledges that the 55% unimpaired flow scenario would result in annual average reductions of 45 percent through the Mokelumne Aqueduct to EBMUD, but there is no acknowledgement of the severity of this impact. A review of the modeling shows that the 55% unimpaired flow would result in cutbacks of 25 % or more in 90 out of 94 years, and cutbacks of 50% or more in 45 out of 94 years. These are drastic, significant cutbacks that would have serious repercussions on the EBMUD service area, including impacts on affordability, housing, and the economy.	Please see Common Response 7.1, General CEQA and Approach to the Analysis, for responses to comments that raise issues with the level and scope of the analysis conducted in the Staff Report. Additionally, in response to comments received, the proposed project has been revised to include water supply adjustments that reduce the water supply impact to municipal users such as East Bay Municipal Utility District. Please see Chapter 13, Revised Proposed Plan Amendments, for an analysis of the revised proposed Plan amendments.
311	129	[ATT 1:] [Reference:] Page 6-102 discussion of Bay Area regional desalination project [Comment:] The discussion of the Bay Area regional desalination project does not mention that locating a desalination plant in the Delta, as envisioned, would require a water right – which would be subject to curtailment, thus rendering the project unreliable.	The discussion in Section 6.6.2, Regional Use of Other Water Management Actions, is not intended to comprehensively describe every ongoing effort in every region in detail; rather, it is intended to provide some basic general information about how different regions may respond to reduced Sacramento/Delta surface supply. 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 in some cases.
311	130	[ATT 1:] [Reference:] 7.2.3.6; 7.24.6.2 Shared Water Shortage Provision (Alternative 5b) “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” [Comment:] This alternative seems problematic from a water rights perspective. It also would penalize those water right holders that are already making instream flow releases. (See Comment No. 41 for more on this point.) To the extent the draft Staff Report purports to provide CEQA clearance for this Alternative 5b, note that it is woefully	The 2023 draft Staff Report described the modular drought alternatives in Section 7.2, Description of Alternatives, with sufficient detail for the purposes of the analysis. These alternatives were adequately analyzed in Section 7.24.6, Modular Drought Alternatives (Alternative 5a and 5b), of the 2023 draft Staff Report. Please see Common Response 7.24, Alternatives Analysis, for more information on the description and analysis of alternatives. Also see Common Response 7.1, General CEQA and Approach to the Analysis, for information on the level and scope of the analysis. Regarding water right holders that are already making instream flow releases, see the response to comment 311-85. If the Board moves forward with this alternative, additional implementation details would be provided.

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		inadequate to do so. To begin to adequately assess this alternative, more detail is needed to understand the true impacts to existing water rights holders. For example: 1) What is the specific approach for determining the shared reduction percentage toward instream flows? 2) How would the State Water Board implement this modular alternative during drought conditions within the current (01/19/2023) framework of the Water Unavailability Methodology for the Delta Watershed? 3) Would the shared water shortage provision related to the Bay-Delta Plan objectives be placed at the highest seniority above all consumptive water rights holders? What would be the starting basis of determining the reduction for each water rights holder (eg. 2018, 2019 reported demands)? 4) How would this alternative be enforced and what due process would apply between riparian, pre-1914, and post-1914 appropriative right holders?	
311	131	[ATT 1:] [Reference:] 7.2.3.6 Modular Drought Alternative 5a [Comment:] This modular alternative is of questionable legality, as it would seek to expand Term 91 to apply to water rights holders senior to the Projects. Further, this alternative is not adequately described, as the draft Staff Report does not state how many or which water rights holders are likely to be affected, how much their diversions might potentially be reduced under this alternative, what the impacts of such reduced diversions would be, and how those impacts would be mitigated. In reality it is not a fully developed alternative, but is instead more of a general concept. In general, this alternative represents a significant change to California's water rights system and would infringe on the rights of those with water rights senior to the Projects who are affected. It should also be noted that EBMUD has already been making	Please see Common Response 7.1, General CEQA and Approach to the Analysis, on level and scope of the analysis. Alternative 5a, Instream Flow Protection Provision, was adequately described in Section 7.2, Description of Alternatives, of the 2023 draft Staff Report, and Common Response 7.24, Alternatives Analysis, provides more information on the description of alternatives. Also, as described in the 2023 draft Staff Report, Section 7.24.6, Modular Drought Alternatives (Alternative 5a and 5b), impacts can be avoided or reduced by implementation of the mitigation measures indicated in Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems. Also see the response to comment 311-84.

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		contributions to Delta water quality for over 25 years via its D-1641 flow requirements.	
311	132	[ATT 1:] [Reference:] 7.24.6.2 “If adopted, some individual water users would experience reductions in Sacramento/Delta surface water supplies, which could result economic effects for agriculture and municipal water users. However, the economic effects of drought would exceed the economic effects of this provision.” [Comment:] The proposed Shared Water shortage Provision would apply in addition to potential drought curtailments. This would result in more frequent curtailments of agriculture and municipal water users, therefore exacerbating economic impacts beyond current drought condition regulations.	The referenced section of the 2023 draft Staff Report acknowledges economic effects for agriculture and municipal water users. Alternative 5b was adequately analyzed in Section 7.24.6, Modular Drought Alternatives (Alternative 5a and 5b), of the 2023 draft Staff Report. See also Common Response 7.24, Alternatives Analysis, on modular alternatives.
311	133	[ATT 1:] [Reference:] 7.2.3.6 Modular Drought Alternative 5b [Comment:] This alternative would require all water users to reduce their consumptive use of water by a specific percentage to contribute to instream flows during drought conditions. The concept of applying a flat percentage reduction to all water users is highly problematic because it is of questionable legality. It is also counter to good public policy, first because it does not recognize the differences in efficiencies among water users. An agency that has invested extensively in conservation such that its customers have a lower per-capita water use should not be subject to the same drought percent reduction as agencies with higher per-capita water use. The SWRCB itself has recognized the unfairness of this approach in the past; in 2015 when the Governor set a goal of reducing urban potable water use by 25%, the SWRCB developed a tiered system of water use reductions targets based on each agency’s per capita water use, with lower percentage reductions required of agencies that had lower use. And, second, this concept does not recognize that some agencies are already contributing instream flows, while other agencies are not. Those agencies already making instream flow releases have already seen their ability to divert reduced by virtue of the flows they must release. By proposing to apply a flat percentage reduction in water consumption across the board, without regard to existing flow burdens, the draft Staff Report is	Please see the responses to comments 311-15 and 311-85.

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		effectively proposing to penalize those agencies that are already helping with flows. That is bad public policy.	
311	134	[ATT 1:] [Reference:] Table 7.2-1, “Proposed VA Assets” [Comment:] The table incorrectly states that the Mokelumne River flow contributions of 5, 5, and 7 TAF are based on Mokelumne Water Year Types. That is incorrect; these flow contributions are based on Sacramento River Index year types. Please see EBMUD’s February 6, 2023 comment letter on the draft Scientific Basis Report Supplement for more detail on the Mokelumne River flow proposal.	The Mokelumne River VA flows are now identified based on Sacramento River Index water year types.
311	135	[ATT 1:] [Reference:] 7.2-2 The staff-proposed regulatory pathway under the VA alternative would apply to non-VA parties and could apply to VA parties in the event the VAs are discontinued. [Comment:] As discussed above, if the VAs are discontinued there would need to be a process to determine next steps, with opportunities for public participation.	Please see Common Response 1.3, Revised Proposed Plan Amendments, for further information on the process for continuation, modification, and termination of the VAs.
311	136	[ATT 1:] [Reference:] 7.2.3.7 Proposed Voluntary Agreements (Alternative 6), page 7.2-15 “The proposed regulatory implementation pathway would be identified in the program of implementation for the Bay-Delta Plan and would require inflows, inflow-based Delta outflows, and cold water habitat measures consistent with the proposed Plan amendments, except that all of the operative provisions would be included in the program of implementation rather than in the objectives.” [Comment:] The Voluntary Agreement Term Sheet states that in the event that the VA are not achieving their goal, “New agreements will be negotiated, or the Bay-Delta Plan’s Program of Implementation will be implemented through the State Water Board’s regulatory authorities and the VA Parties reserve all rights to fully participate in the related regulatory processes, and potential remedies related thereto.” It remains the expectation of the VA parties that if the year 8 analysis is not successful, there would be a regulatory process including opportunities for	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, please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the Voluntary Agreement Pathway.

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		participation and input prior to the imposition of new regulations.	
311	137	[ATT 1:] [Reference:] 7.6.1-4 (table) Regional Habitat Conservation Plans and Natural Community Conservation Plans in the Study Area [Comment:] This table needs to be updated to include the EBMUD low-effect Habitat Conservation Plan and the Mokelumne Watershed Safe Harbor Agreement.	The Staff Report's analysis of impacts related to Habitat Conservation Plans is guided by State Water Board's environmental checklist (Cal. Code Regs, tit. 23, div. 3, ch. 27 Appendix A), which asks in Section IV(f) "Would the project... [c]onflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?" Table 7.6.1-4 in the 2023 draft Staff Report thus contains a list of approved regional habitat conservation plans (HCPs) and Natural Community Conservation Plans (NCCPs) within the study area. Footnote 4 in the table states that "Low-effect, project HCPs, and HCPs that cover localized areas (e.g., San Bruno Mountain HCP) are not included in the table." The analysis excluded such plans, as well as Safe Harbor Agreements, for two reasons. First, at the broad geographic level of the Staff Report's analysis, including the study area's hundreds of low-effect and localized HCPs, NCCPs, and Safe Harbor Agreements would not have a meaningful effect on the overall analyses. Please see Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion on the level and scope of the analysis. Second, Safe Harbor Agreements are agreements between private landowners and the United State Fish and Wildlife Service rather than the habitat conservation plans that the analysis considers pursuant to the environmental checklist.
311	138	[ATT 1:] [Reference:] 7.6.1-85 Impact TER-f – conflict with provisions of HCPs or NCCPs [Comment:] This should include Safe Harbor Agreements	Please see the response to comment 311-137.
311	139	[ATT 1:] [Reference:] 7.6.2-12 "On the east side of the Delta, returning adult steelhead have been observed in the Mokelumne, Cosumnes, and Calaveras Rivers" [Comment:] This text minimizes the existence of a steelhead 'population' on the Mokelumne River. Such a population clearly exists; EBMUD sees the full life cycle of steelhead (O. mykiss)	The 2023 draft Staff Report acknowledges the Mokelumne River steelhead population is considered part of the California Central Valley (CCV) steelhead distinct population segment (DPS). Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, Section 3.4.3.6, Central Valley Steelhead, states "In its 2016 status review, NMFS recommended that the Mokelumne River Hatchery be added to the CCV steelhead DPS based on genetic evidence of the similarity of Mokelumne River Hatchery fish to Feather River Hatchery fish" citing the NMFS

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		present in the river from its monitoring of the Mokelumne River. In addition, the recovery plan has actions for the Mokelumne and clearly states, “hatchery supported population of steelhead also occurs in the Mokelumne River, which flows directly into the Delta in between where the Sacramento and San Joaquin rivers enter the Delta;” and, Central Valley steelhead were thought to be extirpated from the San Joaquin River system, until recent monitoring detected small populations of O.mykiss in the Stanislaus, Mokelumne, and Calaveras rivers, and other streams previously thought to be devoid of steelhead (McEwan 2001). Also, this data reference is over 20 years old; so that the “recent monitoring” referenced is now over 20 years old. The fact that the Mokelumne River is part of the listed steelhead stock indicates the river has a steelhead population; it is more than simply having a few random returning adults detected, as is implied by the draft Staff Report.	2016 Central Valley Recovery Domain 5-Year Review: Summary and Evaluation, California Central Valley Steelhead Distinct Population Segment. The final Staff Report Section 7.6.2, Aquatic Biological Resources, discussion of the CCV steelhead DPS has been updated to acknowledge the status of this population, consistent with Chapter 3. This revision does not change the impact conclusions in Section 7.6.2. Section 7.6.2 of the 2023 draft Staff Report only cites McEwan 2001 in reference to historical distributions of Central Valley steelhead. The quote in the comment (with reference to McEwan 2001) is taken from the NMFS 2014 Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead.
311	140	[ATT 1:] [Reference:] 7.6.2-20 There are currently no other instream flow requirements for the Sacramento River basin and Delta eastside tributaries in the Bay-Delta Plan. [Comment:] This is incorrect. D-1641 includes flow requirements on the Mokelumne River.	The sentence in Section 7.6.2, Aquatic Biological Resources, of the 2023 draft Staff Report is accurate because the 2018 Bay-Delta Plan does not contain instream flow requirements that apply to the Mokelumne River. Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, provides an additional summary of existing flow requirements in the Bay-Delta Plan and Revised Water Right Decision 1641 (D-1641). Section 7.6.2 has been revised to include the same information as presented in Chapter 5 to reflect that even though there are no instream flow requirements specific to the Mokelumne River in the 2018 Bay-Delta Plan, D- 1641 does specify that flow requirements from the Mokelumne River Joint Settlement Agreement are that tributary’s contribution to meeting the 1995 Bay-Delta Plan requirements. This revision does not affect the impact conclusions in Section 7.6.2. Also see the responses to comments 311-45 and 311-47.
311	141	[ATT 1:] [Reference:] 7.6.2-22 2003 EPA temperature criteria [Comment:] The use of Pacific Northwest temperature criteria in the California Central Valley is not the ‘best available science’. There are locally derived data/publications pointing to survival of salmonids in these more southern populations. Bratovich (2020) is a great source.	Bratovich et al. (2020) was limited to considering studies that used constant exposure water temperatures and controlled experimental conditions. According to USEPA (2003), numeric temperature criteria should be based on both laboratory experiments and studies determining where fish perform best in their natural environment considering food availability, competition, predation, and fluctuating temperatures. For a

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			thorough discussion of temperature effects on salmonid fish, please see Common Response 3.1, Fish Protection.
311	142	[ATT 1:] [Reference:] 7.6.2 Aquatic Biological Resources (Pg 7.6.2-88) “results indicate that some reservoirs could experience reductions in carryover storage. Some reservoirs (e.g., Black Butte Reservoir on Stony Creek, Camanche Reservoir on the Mokelumne River) show end-of- September carryover storage that decreases from baseline under most storage conditions and all flow scenarios. Reduced carryover storage could lead to lower flows during fall months. Reductions in flows and carryover storage could reduce cold water habitat and affect special-status fish species in the reaches below these reservoirs.” [Comment:] Decreased flow and increased water temperature in fall months will likely lead to increased mortality in Mokelumne cold-water fish species. Reductions in flow during fall months will likely reduce EBMUD’s ability to send pulse (attraction) flows during fall months, which are used to draw in native salmonids. Furthermore, increased water temperatures will likely lead to increased pre- spawning mortality and/or mortality of incubating eggs. The Mokelumne River is one of the southernmost rivers which salmonids inhabit, and thus factors affecting flow and water temperatures will make the survival of these cold-water species (i.e., Threatened Steelhead Trout) much more difficult.	Please refer to the response to comment 311-52.
311	143	[ATT 1:] [Reference:] Page 7.6.2-88 “The analysis of temperature-related effects in Sacramento River watershed regulated tributaries other than the Sacramento, American, and Feather Rivers relied on a qualitative interpretation of SacWAM reservoir storage and flow results. The qualitative analysis used the basic assumption that increases in flow and/or reservoir storage will cause a reduction in water temperatures at or downstream of the location. Results indicate that some reservoirs could experience reductions in carryover storage. Some reservoirs (e.g., Black Butte Reservoir on Stony Creek, Camanche Reservoir on the Mokelumne River) show end-of-September carryover storage that decreases from baseline under most storage conditions and all flow scenarios. Reduced	CEQA does not require the State Water Board to conduct a precise and individual quantitative temperature assessment for its plan updates partly due to the size and complexity of the Sacramento/Delta water supply system and myriad of uses. The cold water habitat objective is narrative in order to provide sufficient flexibility for implementation options. 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

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		carryover storage could lead to lower flows during fall months. Reductions in flows and carryover storage could reduce cold water habitat and affect special-status fish species in the reaches below these reservoirs.” [Comment:] If a qualitative analysis indicates that some tributaries would experience reduced carryover storage that could affect fall flows and temperature management, then a full, quantitative assessment should have been conducted. In the case of the Mokelumne, EBMUD’s modeling shows that the proposed Plan amendments alternative would have a significant negative effect on the ability to maintain cold water pool and manage temperatures in the Lower Mokelumne River. The inability to maintain temperatures in the tributaries could lead to increased fish mortality that negates the purported benefits of the proposed Plan amendments and Low Flow, and High Flow alternatives for fish.	they often have a good understanding of their unique circumstances on a specific tributary. The default standards are provided and any discretion would occur within the bounds of the default standards. The Staff Report acknowledges potential temperature increases could occur in some streams under some circumstances and managing these factors to protect cold water habitat for fish is complex and challenging. However, the implementation of the narrative cold water habitat objective and the flexibility provided in the inflow requirements would be expected to improve water temperature conditions for native cold water fish. The cold water habitat objective is intended to bolster existing legal protections to ensure comprehensive temperature protection over time. Although approaches may differ among tributaries, the effectiveness of cold water management will require ongoing coordination, collaboration, and technical review among water managers, stakeholders, and technical experts to facilitate both short-term and long-term planning and decision-making efforts. Please see Common Response 7.1, General CEQA and Approach to the Analysis, related to the sufficiency of the analyses conducted in the Staff Report. Please also see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, regarding implementation of the cold water habitat objective and development of carryover storage requirements.
311	144	[ATT 1:] [Reference:] Page 7.6.2-88, 2nd paragraph, 2nd sentence: “The qualitative analysis used the basic assumption that increases in flow and/or reservoir storage will cause a reduction in water temperatures at or downstream of the location.” [Comment:] This is a flawed assumption and is confusing as it is framed as an “and/or,” yet there is an inverse relationship at play between “an increase in flow”, which presumably refers to an increase in the flow released from a given reservoir, and the alternative interpretation “an increase in reservoir storage” Generally, an increase in reservoir release would be associated	The statements quoted by the commenter are found in Chapter 7, Environmental Analysis, and are taken out of context. The statement is supported by model results in Appendix A, Modeling for the Unimpaired Flow Scenarios. The referenced text referred to in this comment is not intended to be the conclusion, but is a generalized lead-in sentence to the topic that is supported by the model results and analysis. Reservoir end-of-September storage was targeted to maintain cold water throughout the year. Reservoir operations that result in low storage in late summer and fall months (i.e., August through November) can cause release temperatures to become too warm for cold water fish, such as Chinook salmon and steelhead. The purpose of simulating this type of reservoir operation is to approximate operations needed to meet the cold water objective.

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		with either an increase in reservoir bypass flow (in which case there would be no change in storage) or a decrease in storage; hence an increase in flow and storage is generally infeasible with the exception of short term flood flow regulation during winter when temperature management is typically not a concern. Second, an increase in storage does not necessarily equate to an increase in cold water, especially relative to a baseline or reference condition as it is dependent on several factors such as the antecedent conditions relative to some reference case. Put simply, if the additional storage captured is warmer water because of the timing, then clearly the result would be a condition where storage is relatively higher yet there is no change or potentially less cold water, again, depending on the antecedent conditions.	Each reservoir has a slightly different elevation-volume relationship, and the elevation of the outlet and the maximum surface elevation influences the minimum carryover (end-of-September) storage that provides a cold water release. For reservoirs with documented or clear historical storage-temperature relationships, storage thresholds sufficient to maintain cool release temperatures were incorporated into the modeling. For example, for Folsom Reservoir, historical operations show that, when end-of-September storage is above 400 TAF, cooler downstream temperatures are more often achieved. In the modeling scenarios, CVP allocations were adjusted to maintain end-of-September storage above 400 TAF as frequently as baseline storage. The flow needed to provide suitable temperature conditions for native cold water fish species depends on reservoir release temperature, channel geometry, meteorology, and shade. The cold water habitat objective is narrative in order to provide sufficient flexibility for implementation options that are tailored to the unique circumstances of each tributary. Many reservoirs have existing problems with temperature for which existing temperature controls may not be sufficient (e.g., see Appendix A1c, Preliminary Assessment of Effect of Reservoir Storage on Reservoir Release Temperature). Reservoir owners and operators may need to meet the proposed cold water habitat requirements by implementing some combination of cold water releases, TCDs including reservoir outlet shutters and thermal curtains, and fish passage improvements. Section 7.21, Habitat Restoration and Other Ecosystem Projects, discusses and evaluates the potential environmental impacts, including construction impacts, of habitat restoration and other ecosystem projects (e.g., use of TCDs and fish passage improvement projects) that entities may undertake toward achieving the overall goal of improving conditions for fish and wildlife in the Sacramento/Delta. While it is expected that many parties would take advantage of the provided flexibility to optimize operations and avoid environmental impacts, this analysis considers and incorporates the most conservative assumptions to ensure comprehensive impact conclusions. Please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for a discussion of carryover storage in the

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			implementation of the cold water habitat objective and flexibility included in the revised proposed Plan amendments related to long-term temperature management strategy and refinement of the carryover storage target ranges.
311	145	[ATT 1:] [Reference:] Page 7.6.2-93 “Because the potential exists that in some instances on some streams temperatures could increase, changes in water temperatures could affect native fish species; this impact would be potentially significant. Implementation of the cold water habitat objective would be expected to minimize potential temperature-related impacts on aquatic biological resources in the Sacramento/Delta watershed.” [Comment:] This statement lacks basis and is highly speculative. The “cold water habitat objective” is a narrative objective that has not been fully developed for each tributary. It is unclear how tributaries would meet the cold water narrative objective while also meeting the unimpaired flow requirement. The Staff Report goes on to suggest that some tributaries may need to operate at the lower end of the range (i.e., 45 percent unimpaired flow), but it does not offer any quantitative assessment of whether it would be possible to maintain cold water pool at this level.	Please refer to the responses to comments 311-2, 311-52, and 311-144.
311	146	[ATT 1:] [Reference:] 7.6.2 Aquatic Biological Resources – Subsection: Conclusion—Water Temperature (pg 7.6.2-93) “it is possible that there could be some instances on some streams where temperatures could increase, particularly while the specific cold water habitat implementation measures are refined. Changes in flow and reservoir storage under the proposed Plan amendments could affect stream temperatures and could affect the availability of cold water to protect anadromous salmonids and other native fishes. The proposed inflow objective would generally result in higher spring flows compared with baseline conditions on regulated tributaries. While higher spring flows that more closely resemble the natural hydrologic regime would be expected to benefit native anadromous salmonids and other native species, higher spring flows could also result in a reduction in reservoir storage at the end of spring and a smaller cold water pool volume in summer	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 Plan provisions because they often have a good understanding of their unique circumstances on a specific tributary. Overall, although the cold water habitat objective would generally be expected to maintain or improve temperature conditions in the Sacramento/Delta, uncertainties exist regarding temperature impacts that may result from implementation independently or in combination with problems resulting from existing dams and diversions and their ongoing impacts on fisheries. Ultimately, management of cold water habitat must consider times of year that various life stages of anadromous fish are present, locations in the river that are utilized by anadromous fish, and the flow required to maintain suitable water temperatures far enough downstream to protect

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		and fall months, particularly on tributaries with significant water diversions and smaller storage capacity. There could also be significant changes in storage in some upper watershed reservoirs, which could affect downstream flows and water temperatures.” [Comment:] This concluding paragraph is problematic because increased river temperatures will likely lead to increased pre-spawning mortality and/or mortality of incubating eggs. The Mokelumne River is one of the southernmost rivers which salmonids inhabit, and thus factors affecting flow and water temperatures, will make the survival of these cold- water species (i.e., Threatened Steelhead Trout) much more difficult.	sensitive life stages from adverse temperature effects. The flow needed to provide suitable temperature conditions for native cold water fish species depends on reservoir release temperature, channel geometry, meteorology, and shade. Plan provisions allow for further refinements and a tailored approach for temperature and cold water habitat protection. Please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, regarding implementation of the cold water habitat objective and carryover storage.
311	147	[ATT 1:] [Reference:] 7.6.2.5 “Mitigation Measures [Comment:] The description of M-AQUA-a,d: includes item 8, “Diversified Water Portfolio,” that suggests that water users should diversify their water supply portfolio to reduce reliance on the Delta. This is not true mitigation; it is conjecture. It does not recognize that many other water supplies (like water transfers and groundwater banking) may not be available under a percent of unimpaired flow alternative. Further, it does not recognize that many projects, like water recycling and desalination, take decades to implement. This “mitigation measure” would result in extremely high costs for water suppliers. It would have significant ripple effects on housing, affordability, the economy, and greenhouse gas emissions.	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 Other Water Management Actions. 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

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			changes in Sacramento/Delta supply. The Staff Report acknowledges that developing replacement water supplies may involve additional cost and time. Please see the response to comment 311-124. See Common Response 7.20, Utilities and Service Systems, regarding the availability of municipal water and alternative water supplies. Refer also to Common Response 8.1, Economic Analysis and Other Considerations, regarding municipal water supply economic effects.
311	148	[ATT 1:] [Reference:] Page 7.8-27 “While changes in hydrology would not result in significant reductions in energy production from reduced hydropower statewide, there could be localized significant impacts for an individual project or community. Implementation of Mitigation Measure MM-EN-a-e can avoid or minimize impacts on hydropower generation.” [Comment:] The proposed “mitigation measure” is insufficient. Simply telling water users and hydropower generators to work together to minimize impacts on hydropower as part of the cold water narrative objective is not sufficient if the proposed Plan Amendments have significant impacts on local power reliability. There is no quantitative assessment to show that it is even possible to mitigate hydropower impacts and maintain coldwater pool under the proposed Plan amendments and the Low Flow, and High Flow alternatives.	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 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 Common Response 7.1, General CEQA and Approach to the Analysis. For a discussion of cold water pool, please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat.
311	149	[ATT 1:] [Reference:] Page 7.8-39 “In the Bay Area, due to the large population, the energy savings associated with municipal water conservation could be substantial.” [Comment:] Agencies like EBMUD have already invested heavily in water conservation, and it may not be feasible to achieve the	It is not assumed that EBMUD would implement more conservation in response to reductions in water supply. Impact EN-e considers multiple methods for compensating for reductions in surface water supply, each of which has varying energy requirements. Due to the uncertainty in the degree to which each methodology will be used, impact EN-e is ultimately determined to be potentially significant.

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		level of additional water conservation needed to mitigate impacts of reduced Sacramento/Delta supplies. In addition, achieving additional water conservation would be more expensive than in the past. It should not be assumed that EBMUD would implement more conservation as opposed to other more energy-intensive water supply options like water recycling or desalination.	
311	150	[ATT 1:] [Reference:] 7.10.4 Greenhouse Gas Emissions – Impact Analysis – Changes in Water Supply – Other Water Management Actions “Due to uncertainty in the actions that would be taken to replace reduced Sacramento/ Delta water supply in each region, it is difficult to know whether the total energy required for these actions would be greater than the total energy savings associated with reduced conveyance and water conservation.” “Implementation of Mitigation Measures MM-GHG-a and MM-GHG-b will reduce potential GHG emissions through implementation of efficiency, conservation, and irrigation system management strategies, as well as compliance with applicable air quality plans, programs, rules, or regulations, and will promote use of renewable energy sources to minimize GHG emissions. Unless and until the mitigation is fully implemented, this impact remains potentially significant.” [Comment:] The greenhouse gas analysis is woefully incomplete. It does not adequately analyze the impacts and offers no true mitigation. Instead, the draft Staff Report says there is too much uncertainty, and implies the impacts could be significant unless MM-GHG-a and MM-GHG- b are implemented. However, both mitigation measures simply imply the water supply shouldn't be wholly or partially replaced, and instead, water users should do with less through increased water use efficiency, increased water conservation, better managed irrigation systems, and use of more energy efficient facilities to move water. These are not mitigation measures because the analysis never	The commenter's assertion that the greenhouse gas (GHG) impact analysis is incomplete and inadequate is unsupported and incorrect. The potential GHG impacts of the proposed Plan amendments were fully evaluated in Section 7.10, Greenhouse Gas Emissions, of the draft Staff Report. Consistent with CEQA Guidelines Section 15064.4, the impact analysis relied on a combination of quantitative and qualitative methods to analyze GHG emissions resulting from the project. Where GHG emissions from project activities (e.g., changes in hydropower production) could be reasonably and accurately estimated, they were quantified using standard analysis methods and emission factors published by the U.S. Environmental Protection Agency (USEPA), California Air Pollution Control Officers Association (CAPCOA), and local air districts. Where GHG emissions from project activities (e.g., water conservation) could not be reasonably quantified without speculation, they were assessed qualitatively considering the factors outlined in CEQA Guidelines Section 15064.4(b). Please refer to Common Response 7.10, Greenhouse Gas Emissions and Mitigation, regarding Mitigation Measures MM-GHG-a and MM-GHG-b.

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		addresses whether those mitigation measures are truly feasible, appropriate (i.e., State doesn't have control and forcing the measure on users), or would create new impacts (e.g., effect on the economy).	
311	151	[ATT 1:] [Reference:] Page 7.12.1-46 Regional Flood Risk, 3rd paragraph, 6th sentence "Reservoirs in the Sacramento/Delta watershed that are subject to this regulation include Camanche Dam and Reservoir (Mokelumne River), Folsom Dam and Reservoir ..." [Comment:] The US Army flood control manual applies to Mokelumne River storage, i.e. both Pardee and Camanche reservoirs jointly (see Chart A-12 of Camanche Dam and Reservoir Water Control Manual, Department of the Army, Sacramento District, Corps of Engineers Sacramento California September 1981. Figure caption denotes, "Maximum Reservation in Pardee and Camanche Reservoir 200,000 acre-feet".). Hence this passage should be revised as "...Pardee and Camanche dams and reservoirs..." to reflect that the flood control reservation applies to both reservoirs. This revision will be consistent with text acknowledging the reservation is a combined storage reservation from both reservoirs, see for example, page 7.12.1-48, last paragraph, 3rd to last sentence. "A total flood reservation of 200 TAF must be maintained in Pardee and Camanche Reservoirs combined, with most of that space normally held at Camanche Reservoir."	The final Staff Report Section 7.12.1, Surface Water, has been revised in response to this comment. This revision does not change the impact conclusions in Section 7.12.1.
311	152	[ATT 1:] [Reference:] Page 7.12.1-106 to 107, impact SW-i [Comment:] The procedure for assessing flood risk, starting with the last paragraph at the bottom of page 7.12.1-106 that extends to the following page, is very difficult to follow. From the description it seems that there is some use of historical data coupled with model data, however, it is unclear from the description. For example, one flood risk indicator is listed as "Peak Flows" where part of the description refers to "hourly or daily" peak flows, yet SacWAM is a monthly model, hence it is unclear how SacWAM is used to calculate the indicators as written.	The flood risk analysis for impact SW-i was performed using monthly results from SacWAM and not historical data. Text regarding peak flows has been modified to clarify this. These revisions do not change the impact conclusions in Section 7.12.1, Surface Water. As described for impact SW-i, the analysis was performed by using SacWAM results to evaluate changes in the highest monthly flows during the time of year when maximum flows occur, noting that the months with maximum flows are often not the months with the highest average flows. For example, for the Mokelumne River, the highest average monthly flows under

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		Assessment of the change in flood risk is an essential component of the impact analysis. The draft Staff Report needs to be clear about how historical measurements or real-time data are used along with (monthly) model results in a clearly defined assessment procedure including clearly stated assumptions and any significant thresholds that are applicable. The results presented in Figure A1-25, for example, clearly demonstrate an increase in high flows that are expected to significantly increase flood risk downstream particularly in May and June.	baseline conditions are in April, May, and June, but the highest maximum monthly flows occur in January and February. While the occurrences of monthly maximum flows are infrequent, flood risk is highest during these periods. Increases in flow associated with the proposed Plan amendments that occur during the spring are generally due to controlled releases to meet instream flow requirements. As described for Impact SW-i and in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, and Section 13.3.3.2, Sacramento/Delta Tributary Inflows, the revised proposed Plan amendments include provisions to ensure that flow requirements would not cause flows to exceed levels that could cause or contribute to flooding or other related public safety concerns.
311	153	[ATT 1:] [Reference:] 7.12.2.3 Impact Analysis, San Joaquin Valley “A reduction in Sacramento/Delta supplies could result in less surface water being applied to crops and other lands that would decrease incidental and managed groundwater recharge rates, potentially leading to decreased groundwater levels in some portions of the San Joaquin Valley region. This impact would be potentially significant.” [Comment:] The mitigation measures that are proposed do not adequately address the potential impacts of decreased groundwater recharge and groundwater levels (see comments below on Section 7.12.2.4 Mitigation Measures). EBMUD and its San Joaquin County project partners have a groundwater banking project located in the Eastern San Joaquin Subbasin that would be significantly impacted by the proposed reduced surface water supplies. In the future, this project envisions storing up to 8,000 acre-feet per year of surface water in the groundwater basin to reduce regional overdraft and also provide drought water supplies.	The Staff Report acknowledges potentially significant impacts to groundwater levels (Impact GW-b) resulting from changes in hydrology or Sacramento/Delta water supplies (see Section 7.12.2.3, Impact Analysis). The groundwater impact mitigation measures listed in Section 7.12.2.4, Mitigation Measures, are primarily the responsibility of and under jurisdiction of agencies other than the State Water Board (Board). While the Board can ensure that mitigation is implemented for actions within its authority, it cannot guarantee that measures taken by other agencies will be adequate, adopted or applied in a manner that fully mitigates the impact. Evaluation of mitigation measures, if needed, will largely occur locally through groundwater sustainability processes under the Sustainable Groundwater Management Act (SGMA). Therefore, unless and until the mitigations are fully and successfully implemented by other agencies, the potential impact to groundwater levels (Impact GW-b) remains significant. In addition, how the operation of groundwater banks may impact groundwater sustainability under SGMA remains an outstanding issue, including how withdrawals of banked water during times of drought may impact already overdrafted, sometimes critically overdrafted, groundwater basins (NHI 2001). Please see Common Response, 7.1, General CEQA and Approach to the Analysis, for more information regarding the level and

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			scope of analysis needed to meet CEQA requirements for this Plan update and Common Response 7.12.2, Groundwater and Sustainable Groundwater Management Act, for a discussion of how the Sacramento/Delta update to the Bay Delta plan aligns with the implementation of SGMA.
311	154	[ATT 1:] [Reference:] 7.12.2.3 Impact Analysis, San Francisco Bay Area, Central Coast and Southern California “Groundwater pumping to replace reduced Sacramento/Delta surface water supplies could lead to significant localized impacts on groundwater levels.” [Comment:] In addition to localized groundwater level impacts from increased groundwater pumping, groundwater availability to replace reduced surface water supplies would be inadequate in quantity and potentially quality to support the urban population and associated uses in the San Francisco (SF) Bay Area.	The Staff Report does not conclude that the urban population and associated uses in the San Francisco Bay Area would be supported on groundwater. The Staff Report acknowledges that water users’ frequent response to reductions in surface water availability is to increase groundwater pumping where groundwater resources are accessible and then analyzes the potentially significant impacts to groundwater resources if more groundwater is withdrawn. (See Section 7.12.2, Groundwater.) In Staff Report Chapter 1, Executive Summary, Table 1-1, lists additional mitigation measures to help water users manage any supply shortfall. Based on their Urban Water Management Plans, most San Francisco Bay Area water suppliers expect to be able to adjust to supply shortages. The total estimated supply of San Francisco Bay Area water suppliers exceeds the estimated demand in the five-consecutive dry years scenario (Appendix D, Supplemental Municipal Supply Analysis Information, Table D-4). Please see Common Response 8.1, Economic Analysis and Other Considerations, for more discussion on water supply replacement options.
311	155	[ATT 1:] [Reference:] 7.12.2.4 Mitigation Measures “Implement the Sustainable Groundwater Management Act (SGMA): Local SGMA implementation will help mitigate the effects of the proposed Plan amendments by minimizing groundwater overdraft, protecting drinking water supplies and other high-quality water from contamination by plume migration, and protecting interconnected surface water from stream depletion caused by groundwater pumping.” [Comment:] The proposed Plan amendments would make SGMA implementation very challenging in basins that need to achieve sustainability, including the Eastern San Joaquin Subbasin where EBMUD and its San Joaquin County project partners have a groundwater banking project. The reduction in surface water	Please see the response to comment 311-153. The 2023 draft Staff Report recognizes the potentially significant impact on groundwater supplies from water supply shortages and is discussed as Impact GW-b in Section 7.12.2 Groundwater. The Groundwater Sustainability Plan (GSP) for the high-priority Eastern San Joaquin groundwater basin, should address adverse impacts to groundwater as part of the Sustainable Groundwater Management Act (SGMA) implementation. Public agencies have been on notice since 2012 regarding State Water Board’s intention to update the Bay-Delta Plan. Such notification should have informed groundwater sustainability agencies’ planning efforts and management assumptions regarding the amount of surface water supplies, in excess of environmental needs, that may be available for GSP implementation.

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		will severely limit the amount of water available to recharge groundwater basins. Those basins will be unable to stabilize groundwater levels and avoid groundwater overdraft without implementing severe groundwater pumping restrictions, which will lead to other impacts such as job losses in the agricultural industry and crop yield reduction.	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. Please also see Common Response 8.1, Economic Analysis and Other Considerations, for more discussion on change of agricultural labor in California.
311	156	[ATT 1:] [Reference:] 7.12.2.4 Mitigation Measures “Diversify Water Portfolios: Water users can and should diversify their water supply portfolios in an environmentally responsible manner and in accordance with the law, to mitigate groundwater impacts. This includes sustainable use of groundwater and groundwater storage and recovery and conjunctive use, water recycling, water transfers, and water conservation and efficiency upgrades. [Comment:] The recommendation to diversify portfolios overstates the feasibility of developing alternate water supplies and understates the economic implications. For example, recycled water may be expensive due to the cost to construct infrastructure and treat effluent, and water transfers may be unavailable under a percent of unimpaired flow alternative. In addition, the reduction in surface water because of the proposed Plan amendments will make it difficult to implement groundwater storage and recovery and conjunctive use projects.	The Staff Report discusses that water users can and should diversify their water supply portfolios and water diversification is included as a mitigation measure for reducing groundwater impacts. 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. Public agencies will have to consider which mitigation measures are feasible based on their circumstances. 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 the impact remains potentially significant. The Staff Report includes a section on a variety of available funding assistance programs in Chapter 8, Economic Analysis and Other Considerations. Please also see Common Responses 7.12.2, Groundwater and Sustainable Groundwater Management Act and 8.1, Economic Analysis and Other Considerations, for a discussion of funding for alternative water supplies.
311	157	[ATT 1:] [Reference:] Page 7.16- 7 “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... There would be no impacts resulting from changes in water supply under Impact POP-b and Impact POP-c” [Comment:] As discussed in EBMUD’s comments on 7.20 and	Changes in water supply include reduced Sacramento/Delta water supply for municipal uses. 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. Please see the response to comment 311-71. Please see Common Response 1.2, Water Quality Control

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		Chapter 8, the Draft Staff Report overstates the feasibility of developing alternative water supplies and underestimates the associated costs. Projects like groundwater storage or water recycling can take decades to develop and at very high costs. The Draft Staff Report modeling of water supply impacts to EBMUD shows sustained, significant cutbacks in supply. EBMUD's 2050 Demand Study estimated over 180,000 new housing units in its service area between 2022 and 2050. EBMUD can not accommodate this new development under the shortage levels associated with the proposed Plan amendments and the Low Flow and High Flow alternatives.	Planning Process, for a discussion on the factors to be considered in establishing water quality objectives, including the need for developing housing.
311	158	[ATT 1:] [Reference:] Page 7.20-8 "Occasionally municipal water providers encounter difficulty maintaining high water quality. For example, there has been concern recently about increased harmful algal blooms in California waterways and the potential for cyanobacteria and cyanotoxins in drinking water (SWRCB 2019). In general, monitoring of the source water (typically a reservoir) is critical; if toxins are found, drawing from deeper depth, or temporarily relying on an alternative source is one form of mitigation. However, treatment of the drinking water at a water plant is another option. For example, in 2015, EBMUD, which draws water from Pardee Reservoir, was required to switch to a higher (nearer to the surface) intake valve to maintain temperature conditions for salmon. The change in diversion location caused an unpleasant taste and smell, although there was no danger to public health. In the short term, EBMUD informed customers to chill the water and use carbon filters to improve taste and smell (EBMUD 2016). EBMUD made capital improvements to add aeration and ozonation equipment to both the Sobrante and Upper San Leandro Water Treatment Plants to address the taste and smell problems (EBMUD 2023)." [Comment:] This paragraph comments upon the occasional inability of municipal water providers to maintain high water quality, with an example given of the presence of harmful algal blooms (HABs) and toxins in source water. The paragraph goes on to indicate that potential mitigation measures for toxins in	The text has been clarified to remove the unintentional inferred connection between EBMUD treatment and HABs. The edits do not alter the impact analysis or conclusion of the impact analysis.

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		drinking water include relying on an alternative source or treatment at a water plant. The draft Staff Report does not cite an example of a water agency that specifically dealt with toxic HABs in its drinking water supply. Instead, the report cites EBMUD as an example of a water agency that treats its drinking water at a plant. This statement conflates toxic HABs with decidedly nontoxic and more readily treatable taste and odor concerns. They are not the same thing. EBMUD takes exception to being used as the exemplar for mitigation of toxic HABs, when the capital improvements to EBMUD's water treatment plants were solely for taste and odor complaints.	
311	159	[ATT 1:] [Reference:] Page 7.20-20 [Comment:] Mitigation Measure MM-UT-a is insufficient to mitigate potential effects on wastewater treatment. Even if state funding is available for treatment plant upgrades, these projects take years or even decades to plan and execute. In addition, this section does not acknowledge the potential impacts to recycled water projects that could result from reduced and/or more concentrated wastewater flows.	As disclosed for Impact UT-a, the quality and quantity of wastewater inflows could be affected by changes in hydrology and supply. If unable to modify treatment operations to accommodate changes in inflow, wastewater treatment plants may require construction of new or modified facilities. Construction of new or modified wastewater treatment facilities is already considered and evaluated as a reasonably foreseeable response action to changes in water supply, including wastewater treatment plant upgrades for the purpose of water recycling, and is addressed in Section 7.22, New or Modified Facilities.
311	160	[ATT 1:] [Reference:] Page 7.20-30-31 "If and when shortage conditions arise, the WSCP allows the supplier's governing body, its staff, and the public to identify and efficiently implement pre- determined steps to manage a water shortage that may occur due to a number of reasons (e.g., population growth, drought, regulatory action constraints, climate change, catastrophic events)" [Comment:] The discussion of Water Shortage Contingency Plans seems to suggest that agencies can simply implement these plans in response to reduced water Sacramento/Delta water supplies. This assumption is erroneous. WSCPs are designed to help agencies respond to short term shortages due to events like droughts. The types of response actions initiated during a drought may not be appropriate for a permanent reduction in water supply. In addition, the WSCPs were developed based on current conditions. Response actions like the acquisition of	The Staff Report relies on the information from WSCPs to infer response actions that align with standard water shortage levels corresponding to progressive shortage in municipal water supply. For example, if demand reduction actions listed for EBMUD Shortage Level 1 (up to 10 percent shortage) include expanded public information campaign, leak repairs, rebates for efficiency upgrades, restricting or prohibiting runoff from landscape irrigation, and water use surveys, and no supply augmentation is anticipated at this shortage level, the Staff Report infers that responses to supply reductions of up to 10 percent most commonly include demand management measures. However, WSCP actions are not a solution that can replace a longer-term response to a permanent change in water supply, which may involve investment in new or augmented water sources. While suppliers may continue to develop locally appropriate alternative supplies and implement locally appropriate operational changes, demand management measures would still be appropriate for a permanent reduction

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		transfer water may be less feasible under the proposed Plan amendments, and the Low Flow and High Flow alternatives.	in water supply. Please see the response to comment 311-65 regarding water transfers.
311	161	[ATT 1:] [Reference:] Page 7.20-31 “Responses to supply reductions of up to 10 percent most commonly include demand management measures, such as public outreach, incentives to expand water conservation, and measures to reduce outdoor use (DWR 2021b). Increased use of demand management measures in response to supply reductions would not be considered an impact, as these measures do not require new entitlements to augment supplies” [Comment:] This is incorrect. Certain demand reduction measures can have impacts, especially when these measures become permanent. For example, restrictions on irrigation can lead to situations where economically disadvantaged communities remove landscaping altogether or allow trees to die rather than investing in landscape replacement or new irrigation systems. This can exacerbate urban heat island effects. In addition, demand management measures do have economic impacts on water suppliers – both in terms of the costs to implement the demand management measures, and from resulting lost revenue. This can lead to the need for rate increases that disproportionately impact low income customers.	The comment does not provide information to support a conclusion that sustained water conservation will result in urban heat islands. Water agencies typically promote water efficient landscapes rather than no landscapes, and many cities throughout California have plans to expand their urban tree canopy, which has benefits of increased water conservation and reducing urban heat island effect. Trees require less water than turf and can be irrigated much more efficiently. Researchers here in California have shown that turf can use four to ten times as much water as trees (SWRCB 2023b). As discussed in Section 8.3.6, Water Conservation and Water Efficiency Measures, the costs of water conservation can vary considerably by user (e.g., residential, commercial, or municipal) and the measures implemented. However, urban water conservation and efficiency are the most cost-effective ways to meet current and future water needs, as compared to developing alternative water supplies. Chapter 10, Economically Disadvantaged Communities, describes various financial and technical assistance programs available to assist public water systems serving economically disadvantaged communities.
311	162	[ATT 1:] [Reference:] Page 7.20-38 “A review of Bay Area UWMPs indicate that reliance on imported water and groundwater storage and recovery exchange agreements will continue, but future efforts among wholesale water providers will expand local storage—including both surface reservoirs and groundwater recharge and evaluation of brackish water desalination (SCVWD 2016; EBMUD 2016). “ [Comment:] Note that EBMUD’s planned groundwater banking and desalination projects are considered necessary to address expected future shortfalls based on current conditions. If the SWRCB institutes an unimpaired flow approach, EBMUD may	Please see the response to comment 311-68.

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		need to seek and develop additional water supply sources beyond the ones mentioned here, at potentially great cost, if even feasible.	
311	163	[ATT 1:] [Reference:] Page 7.20-38 “Generally, a reduction in municipal supply of up to 10 percent would be managed through more intensive use of demand management measures (DWR 2021b).” [Comment:] Short term actions taken in response to drought – such as messaging and advertising campaigns and restrictions on water use – are not the same as strategies to reduce water use in the long term. It is not appropriate to conflate drought response with permanent reductions in water supply. In addition, there is already evidence that the State is experiencing demand hardening, wherein previous water efficiency programs have reduced demand such that it is difficult to obtain additional conservation savings. For example, in the recent 2021-2022 drought, the Governor set a voluntary statewide reduction goal of 15%, but the state only reached 6% on average.	Demand management measures would still be an integral and appropriate part of strategies to reduce water use in the long term, regardless of whether suppliers continue to develop alternative supplies, and implement operational changes. Water savings under voluntary water use reduction goals do not necessarily indicate hardening demand, as multiple studies concluded that voluntary conservation measures are less effective than mandatory use restrictions (SWRCB 2016a). Likewise, California statewide emergency water conservation regulation measures also demonstrated that in the absence of required conservation targets, statewide water use decreased nine percent (SWRCB 2015), while the level of conservation exceeded 25 percent with mandatory conservation targets (SWRCB 2016b).
311	164	[ATT 1:] [Reference:] Page 7.20-44 “Several strategies could be implemented at the local or regional level using existing infrastructure to reduce the potential impacts from reduced Sacramento/Delta surface water supplies, including increases in groundwater storage and recovery, water transfers, water recycling, and water conservation measures.” [Comment:] Many of these strategies are expensive and require a significant lead time to develop. In addition, the availability of water transfers may diminish significantly if numerous water agencies are seeking them, especially in Critically Dry years. In addition, there is already evidence that the State is experiencing demand hardening, wherein previous water efficiency programs have reduced demand such that it is difficult to obtain additional conservation savings. For example, in the recent 2021-2022 drought, the Governor set a voluntary statewide reduction goal of 15%, but the state only reached 6% on average.	Please see the response to comment 311-65 regarding water transfers. See also the response to comment 311-163 regarding demand management.
311	165	[ATT 1:] [Reference:] MM-UT-d: Avoid or reduce impacts on municipal supplies	Please see the response to comment 311-68.

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		[Comment:] MM-UT-d is not true mitigation. The mitigation measure relies significantly on water users diversifying their supply portfolios, citing groundwater storage and recovery, recycled water, and water conservation. However, these supplies may not exist in reality. For example, water transfers and groundwater banking may not be feasible under a percent of unimpaired flow alternative. In addition, programs like water recycling, groundwater banking, and conservation are expensive and take time to implement. Water users may not be able to develop these alternatives in a short time frame. In terms of water conservation, there is already evidence that the State is experiencing demand hardening, wherein previous water efficiency programs have reduced demand such that it is difficult to obtain additional conservation savings. For example, in the recent 2021-2022 drought, the Governor set a voluntary statewide reduction goal of 15%, but the state only reached 6% on average.	Please see Common Response 7.1, General CEQA and Approach to the Analysis, regarding the Staff Report's approach to mitigation. 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, and public trust obligations). The Staff Report identifies mitigation measures that could, if implemented, reduce or avoid the adverse environmental impacts of the Plan amendments, including the impacts of actions that local agencies may take to adjust to the flow regime under those amendments. Precise actions that local entities would take are in the hands of those local entities. The Staff Report does not assume that any given measure will be feasible or effective as to any given local agency, and concludes that impacts subject to such mitigation would be potentially significant.
311	166	[ATT 1:] [Reference:] 7.24.2.1 Changes in Hydrology (No Project Alternative) - Table 7.24-1 [Comment:] Sites Reservoir was supposed to take water in high water years (Wet/Above Normal) and add water in Dry/Critical years, but this shows a large decrease in dry years.	The change in Delta outflow from the Sites Reservoir Project presented in Table 7.24-1 of the 2023 draft Staff Report was obtained from the February 2023 Administrative Final EIR/EIS for that project.
311	167	[ATT 1:] [Reference:] 7.24.4 High Flow Alternative (Alternative 3) – Subsection (Changes in Reservoir Levels)	As described in Staff Report Section 7.24.4, High Flow Alternative (Alternative 3), the mitigation measures that could

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		“Under this alternative, some valley floor reservoirs that are subject to more heating and have other challenging temperature management characteristics, such as Camp Far West, Folsom, New Bullards Bar, and Camanche, could particularly be impacted by higher instream flow requirements and the ability to maintain cold water supplies, while still providing for water supplies for other uses... Without adequate carryover storage, there would be significant challenges in maintaining suitable downstream water temperatures to support native cold water fish species such as Chinook salmon and steelhead... these beneficial environmental effects would be limited due to significant challenges in maintaining suitable water temperatures for native cold water species such as Chinook salmon and steelhead on regulated tributaries, as well as carryover storage needed to maintain water quality during dry periods.” [Comment:] In these sentences, the State Water Board is fully recognizing that the proposed High Flow Alternative could be extremely detrimental to Chinook and Steelhead populations. Such impacts are significant environmental effects that must be mitigated through feasible, effective mitigation measures. Such measures are not yet contained in the draft Staff Report.	reduce potentially significant impacts of the High Flow Alternative are the same as the mitigation measures that could reduce potentially significant impacts of the proposed Plan amendments and are detailed in Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems.
311	168	[ATT 1:] [Reference:] Section 7.24 pages 46-47, Modular Drought Alternatives “The analyses below do not repeat impacts from response actions, including increased use of groundwater and other water management actions that entities may choose to take to offset reductions in Sacramento/Delta surface water supply. These other water management actions include increased use of groundwater, groundwater storage and recovery, water transfers, water recycling, and agricultural and municipal water conservation. The impacts of other water management actions are evaluated in Sections 7.3 through 7.20 for the proposed Plan amendments...Similarly, the analyses below do not repeat impacts associated with construction of new or modified facilities and habitat restoration and other ecosystem projects, as these are already evaluated under the stand-alone alternatives.”	As discussed in Section 7.24, Alternatives Analysis, of the Staff Report, the environmental impacts of each of the modular alternatives are evaluated in isolation compared with existing conditions to properly characterize the changes that could occur from each modular alternative, as distinguished from impacts of the stand-alone alternatives. Please see Common Response 7.24, Alternatives Analysis, for more information on the description and analysis of alternatives. Also see Common Response 7.1, General CEQA and Approach to the Analysis, for information on the approach to the analysis. The modular drought alternatives were adequately analyzed in Section 7.24.6, Modular Drought Alternatives (Alternative 5a and 5b). As explained in that section, these alternatives would distribute the effects of reduced Sacramento/Delta surface water supply among a larger group of surface water diverters under drought conditions (including during declared drought

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		[Comment:] The Draft Staff Report needs to evaluate and present the impacts of all alternatives under consideration. The document does not analyze the impacts of the proposed modular drought alternatives, instead relying on the analysis of a different alternative as a stand-in. This is particularly problematic since these modules could be combined with other alternatives, making it challenging to determine what the total impacts would be. The draft Staff Report is also lacking in sufficient detail on these drought modules for water suppliers to determine whether or to what extent they would be impacted. For example, there is no list of water users whose rights would be curtailed under Module 5A.	emergencies). This could affect Sacramento/Delta water supplies to individual water users, but the types of impacts and significance determinations would remain similar to those made without the modular drought alternatives.
311	169	[ATT 1:] [Reference:] Page 7.24, page 49 Changes in Water Supply (under Modular Drought Alternatives) “The Instream Flow Protection Provision could reduce the use of TUCPs and as such reduce to some degree the total amount of surface water available for diversion within the Sacramento/Delta watershed at times. However, the magnitudes of these water supply effects are already encompassed in the modeling for baseline which does not assume use of TUCPs.” [Comment:] This seems to suggest an incorrect baseline.	Please see Common Response 1.3, Revised Proposed Plan Amendments, for a discussion of TUCPs and see Common Response 6.2, Baseline and No Project Alternative, for a discussion of why TUCPs were not included in baseline.
311	170	[ATT 1:] [Reference:] Page 7.24-49, Changes in Water Supply (under Modular Drought Alternatives) “However, regardless of inclusions of this Alternative, there could still be drought related curtailments that could have similar effects, as occurred in 2021 and 2022.” [Comment:] This is purely speculative and not sufficient analysis. Pointing out the potential for similar effects in the baseline is not the same as assessing the impacts of a proposed alternative.	Alternative 5a, Instream Flow Protection Provision, was adequately analyzed in Section 7.24.6.1, Instream Flow Protection Provision (Alternative 5a), of the 2023 draft Staff Report. It is not speculative to point out that in a drought, water may not be available under a water user’s water right priority. As discussed in Section 7.24, Alternatives Analysis, the environmental impacts of each of the modular alternatives are evaluated in isolation compared with existing conditions to properly characterize the changes that could occur from each modular alternative, as distinguished from impacts of the stand-alone alternatives.
311	171	[ATT 1:] [Reference:] Section 7.24, page 7.24-49 “If implemented in combination with the proposed Plan amendments or other flow alternatives, or proposed VAs, the	Alternative 5a, Instream Flow Protection Provision, was adequately analyzed in Section 7.24.6, Modular Drought Alternatives (Alternative 5a and 5b), of the 2023 draft Staff Report. The reasoning behind the quoted language is provided in

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		Instream Flow Protection Provision Alternative could result in reduced water supplies for individual water users at times during drought conditions, but the types of impacts and significance determinations would remain similar to those made without the Instream Flow Protection Provision Alternative.” [Comment:] Without actually providing the analysis, it is difficult to determine the validity of this statement. The draft Staff Report has not adequately characterized how the drought modules might exacerbate the impacts from the proposed Plan amendments and the High Flow or Low Flow alternatives.	the paragraph preceding the quote on page 7.24-49 of the 2023 draft Staff Report. As discussed in Section 7.24, Alternatives Analysis, the environmental impacts of each of the modular alternatives are evaluated in isolation compared with existing conditions to properly characterize the changes that could occur from each modular alternative, as distinguished from impacts of the stand-alone alternatives.
311	172	[ATT 1:] [Reference:] Section 7.24, page 50, Shared Water Shortage Provision “Overall, changes in reservoir levels and streamflows could occur at times and in some locations when the Shared Water Shortage Provision is in effect during droughts, but the types of impacts and significance determinations would be expected to be similar under the alternatives this alternative could be combined with.” [Comment:] It is not enough to say what impacts would be expected. There needs to be analysis to quantify those impacts and compare them among the different alternatives.	Alternative 5b, Shared Water Shortage Provision, was adequately analyzed in Section 7.24.6.2, Shared Water Shortage Provision (Alternative 5b) of the 2023 draft Staff Report. Please see the response to comment 311-168.
311	173	[ATT 1:] [Reference:] Section 7.24, page 50, Shared Water Shortage Provision “This provision would help to avoid TUCPs and could result in improved cold water storage in Project reservoirs for downstream fisheries protection.” [Comment:] Depending on how this module is implemented, it could have negative impacts on reservoirs on other tributaries, leading to temperature management impacts on those tributaries.	As discussed in Section 7.24.6.2, Shared Water Shortage Provision (Alternative 5b), of the Staff Report, the Shared Water Shortage Provision Alternative (Alternative 5b) could affect streamflows and reservoir levels at certain times and locations, and could result in lower reservoir levels at times in some reservoirs. Please see response to Comment 311-168 for further discussion regarding Alternative 5b.
311	174	[ATT 1:] [Reference:] 8.3.1 Groundwater Storage and Recovery [Comment:] This section fails to acknowledge or analyze the potential impacts on groundwater banking projects resulting from the proposed Plan amendments, and the Low Flow and High Flow alternatives. Under these alternatives, groundwater	The Staff Report discusses potential effects on recharge from the proposed Plan amendments in Section 7.12.2, Groundwater. In Sections 8.3.1, Groundwater Use, and 8.3.2, Groundwater Storage and Recovery, the Staff Report further acknowledges that costs may vary depending on required well depth. Stormwater capture and recharge would be a function of precipitation and not

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		banking projects may not be feasible because surface water supply even during wet years would be constrained and would not be available to recharge aquifers.	affected by flow requirements, while surface water deliveries in years of abundant water supply could continue to be used for recharge. Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for more information on Bay Area municipal water supplier long-term planning, including groundwater storage and recovery efforts.
311	175	[ATT 1:] [Reference:] 8.3.3, Water Transfers “The analyses in this chapter assume that there could be greater demand pressure in the water transfer market such that future prices may be higher than recent historical trends. For the purposes of the municipal water supply economic effects analysis presented in Section 8.5, future transfer prices are assumed to be \$500 per AF for transfers to the Bay Area...” [Comment:] This section does not acknowledge or analyze impacts on the availability of water transfers under the proposed Plan amendments and the Low Flow and High Flow alternatives. It is likely that much less transfer water would be available, and there would be greater competition for it. In addition, the cited cost of \$500 per acre foot is considerably lower than what EBMUD has paid for transfers. For example, in 2022, EBMUD purchased water at a cost of \$720/AF. Water transfers may also have additional costs associated with them that make them more expensive than traditional supplies. In the case of EBMUD, transfers are typically conveyed through the Freeport facilities on the Sacramento River, and from there to the Folsom South Canal to EBMUD’s Mokelumne Aqueducts at an additional cost of about \$359/AF, plus start-up costs (based on internal analyses). In addition, these transfers are a different water quality than EBMUD’s Mokelumne River supply and are more expensive to treat.	As discussed in Section 6.6.1.2, Water Transfers, it is difficult to predict with certainty 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 be reduced. 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 7.12.1, Surface Water, describes water quality impacts that could occur as a result of reduced Sacramento/Delta surface water supply to municipal and agricultural uses, including impacts associated with replacing Sacramento/Delta municipal water supply with lesser-quality sources. Section 8.9.2.1, New or Modified Drinking Water Treatment Plants, in the final Staff Report, provides information regarding the costs to modify or build water treatment facilities. The analysis in Chapter 8, Economic Analysis and Other Considerations, assumes that there could be greater demand pressure in the water transfer market such that future prices may be higher than recent historical trends. For the purposes of the municipal water supply economic effects analysis presented in Section 8.5, Municipal Water Supply Economic Effects, future transfer prices are assumed to be \$500 per AF for transfers to the Bay Area, \$500 per AF for transfers to the Central Coast, \$500 per AF for transactions to and within the San Joaquin Valley region, and \$750 per AF for transfers to the Southern California region. These assumed water transfer prices used in the Staff Report were higher than historical averages for all water year types, which is an appropriate and conservative assumption for the analysis.

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			Please see Common Response 8.1, Economic Analysis and Other Considerations, for additional discussion on the feasibility of water transfers as an alternate supply source under the flow scenarios.
311	176	[ATT 1:] [Reference:] 8.3.4 Water Recycling [Comment:] This section fails to consider how long it can take to develop these projects. Water recycling projects can take years or even decades to plan, permit, design, and build. In addition, the costs cited are low. EBMUD' 2018 Recycled Water Master Plan Update identified a suite of recommended nonpotable projects, with an average unit cost of \$2,108/AF (2018 dollars). Based on the current ENR Construction Cost Index, that would equate to approximately \$3,036/AF in today's dollars.	Water suppliers are required to prepare UWMPs every 5 years. UWMPs are intended to provide a framework for long-term water planning, including identifying response actions, such as demand management and replacement sources of water; developing contracts and/or infrastructure as necessary, including consideration of the time and resources to plan, permit, design and build. Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for a discussion of how the Staff Report considers infrastructure requirements, including time to develop alternative municipal water supplies. The economic analysis accurately reflects relative values of different resource effects and as a share of economic output at a particular point in time and is sufficient to inform decision makers. Refer also to Common Response 8.1, Economic Analysis and Other Considerations, regarding the costs and feasibility of alternative water supply options.
311	177	[ATT 1:] [Reference:] 8.3.5 Desalination [Comment:] The Staff Report also identifies brackish desalination as a potential supply option. EBMUD participated in a regional desalination pilot study in 2010 that identified potential sites for a regional desalination plant, including a site in the delta. It was determined that extracting water from the delta for a desalination plant would require a water right, which could be curtailed during dry years, rendering the project unreliable.	Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for a discussion of desalination as an alternative water supply. Refer also to response to Comment 311-176 regarding the costs and feasibility of other water supplies.
311	178	[ATT 1:] [Reference:] 8.3.6.2 Municipal Demand Management Measures [Comment:] The discussion of water conservation measures has numerous flaws. First, the discussion fails to take into consideration the significant investment many urban suppliers have already made in water conservation, meaning that some of the programs mentioned have already been implemented and are no longer available. For example, the text says, "Residential	The commenter is correct that there can be substantial costs to water agencies to implement water conservation and efficiency measures. The full range of water conservation costs is included within the upper bound cost estimates which estimates cost of full surface water replacements. Municipal demand management measures are an important tool that can be used to minimize municipal supply economic effects of reduced Sacramento/Delta supply to municipal uses. A recent

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		water efficiency measures include high-efficiency toilets, showerheads, clothes washers, dishwashers, landscape conversions, and household leak repairs.” EBMUD implemented many of these measures years/decades ago. In essence, these are the types of measures that represent low-hanging fruit that water providers begin with to gain conservation savings. They have long since been implemented by EBMUD. In fact, EBMUD sunsetted its rebate program for high-efficiency toilets in 2016, as it had estimated that market saturation for these toilets was greater than 80 percent, indicating that there was little additional potential for further conservation savings from this program. Similarly, EBMUD also discontinued its clothes washer rebate program in 2016. Future conservation programs are likely to be more expensive than in the past. Second, this section describes the potential cost savings for homeowners, but does not address the costs to utilities to implement these programs. It is not clear what unit costs are being used for agencies to develop and implement water conservation programs, including the costs of rebates. Nor does it acknowledge the fact that decreasing consumption leads to higher water rates.	study found that urban water conservation and efficiency are the most cost-effective ways to meet current and future water needs, as compared to developing alternative water supplies. Municipal providers facing a reduction in one source of supply may prioritize replacement based on least cost first. As the upper bound assumes no water conservation, and assumes the purchasing of additional water supplies to completely replenish any reserves used to fully replace the reduced Sacramento/Delta supply, the upper bound estimate covers a scenario where water conservation is either not feasible or costs more than purchasing a replacement supply. The Staff Report acknowledges that actual costs are likely to fall between the lower and upper bound estimates. Water conservation and demand management have also been an integral part of municipal water providers’ master planning and are ongoing components of their annual budget. Section 8.3.6.2, Municipal Demand Management Measures, has been updated to include a discussion such programs initiated by water providers and the cost to implement it. Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for information about potential sources of funding for municipal water conservation and alternative water supplies.
311	179	[ATT 1:] [Reference:] Section 8.5.1. “Forecasted future water supplies up to the year 2030 were used to represent potential availability of additional other water supplies...” 8.3.3 “For example, in 2014, prices rose to an average of \$779/AF. In the Southern California region, average prices generally ranged between \$200/AF and \$300/AF, with fluctuations in years with single-year transfers. (WestWater Research, unpublished data.)” 8.3.5 “Brackish water desalination is much less expensive, at median prices of \$1,100 to \$1,600 per AF, due to lower energy and treatment costs (Cooley and Phurisamban 2016, p. 14).”	Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for information on replacement water supply costs used in the analysis of municipal water supply economic effects. In Section 8.3, Costs Associated with Other Water Management Actions, the Staff Report cites cost and price information as published in the literature. However, for the purposes of the municipal water supply economic effects analysis presented in Section 8.5, Municipal Water Supply Economic Effects, the costs were first adjusted to a common year (2022) using the Bureau of Labor Statistics, Consumer Price Index. For example, source type and representative unit cost values in Appendix D, Supplemental Municipal Supply Analysis Information, reflect costs adjusted to 2022. Section 8.5, Municipal Water Supply Economic Effects, was

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		A3.3 “SWAP results are presented for baseline (or existing) conditions and the flow scenarios for the two groundwater pumping levels. Results are aggregated to two geographic regions: Sacramento/Delta and the San Joaquin Valley. Estimated revenues are indexed to July 2022 dollars using the Bureau of Economic Analysis Implicit Price Deflator (BEA 2022).” [Comment:] The basis of evaluating costs to develop future water supplies across the subsections of 8.5 (Municipal Water Supply Economic Effects) and 8.8 (Costs Associated with New or Modified Facilities) are based on data sources from various time periods and should be indexed to a common year (eg. 2022) for a more meaningful comparison of economic impacts covered in Chapter 8. For example, water transfer costs estimates are based on 2014-2015 data (Section 8.3.3); Desalination project construction costs are estimated from data reported in 2015 dollar amounts per the Cooley and Phurisamban, 2016 study (Section 8.3.5); while the SWAP Model of Agricultural Water Supply Economic Effects (Section 8.4) present results indexed to July 2022 dollars (Section A3.3).	edited to include two new sentences that clarify that all costs were adjusted to 2022 values using the Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers, and that the results in Chapter 8, Economic Analysis and Other Considerations, and in Appendix D, Supplemental Municipal Supply Analysis Information, are presented in 2022 dollars. These clarifying edits do not alter the economic analysis or conclusions of the Staff Report’s economic analysis.
311	180	[ATT 1:] [Reference:] Section 8.5.1 “Urban water conservation measures are evaluated in the lower bound analysis for all regions as these measures were explicitly identified as future water portfolio strategies in various urban water management plans.” [Comment:] In the case of EBMUD, the water supply portfolio described in EBMUD’s UWMP is meant to help meet planned future demand based on baseline conditions. If the proposed Plan amendments and the High Flow or Low Flow alternatives are implemented, additional supplies would be needed to make up for the lost Sacramento/Delta supplies.	The environmental and economic analyses presented in the Staff Report do not assume that municipal water suppliers will adopt any specific strategies in response to the Sacramento/Delta update to the Bay-Delta Plan. As discussed in Section 8.5.1, Approach to Analysis, costs are estimated as a range representing the extent to which municipal providers may rely on demand management measures and use reserve supplies, if available, versus the cost of acquiring additional water supplies to fully replace the reduction in the Sacramento/Delta water supply. In addition to the lower bound analysis, the analysis considers an upper bound that represents the maximum annual estimated cost for using reserve supplies to replace reduced Sacramento/Delta supply and the estimated cost for purchasing additional water supplies to completely replenish any reserves used to replace the reduced Sacramento/Delta waters supply, with no action to managed demand through demand management measures. A water provider’s actual cost most

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			likely would fall between the lower and upper bound. See also Common Response 7.20, Utilities and Service Systems, for a discussion of responses to changes in municipal water supply.
311	181	[ATT 1:] [Reference:] Section 8.5.1 “The analysis assumes that urban water conservation measures represent the first source of replacement water and also assumes no economic cost to the municipal provider.” [Comment:] This is incorrect. Water conservation programs cost money to implement – including costs for rebates, contracts, administration, etc. In addition, increased conservation leads to decreased revenues for water suppliers, causing them to raise rates, which disproportionately impacts low income customers.	Staff Report accounts for the scenario in which municipalities incur additional costs to implement new or additional water conservation measures in the upper bound estimate. Because upper bound assumes the purchasing of additional water supplies to completely replenish any reserves used to fully replace the reduced Sacramento/Delta supply, the upper bound estimate covers a scenario where water conservation is either not feasible or costs more than purchasing a replacement supply.
311	182	[ATT 1:] [Reference:] Table 8.5-1 [Comment:] EBMUD’s analysis of the unit costs and availability of alternative supplies (see comments above on section 8.3) suggest that this table grossly underestimates the costs to replace lost supplies. In addition, showing the total cost by region hides the potential significant impacts on specific water suppliers.	The analysis provided in the Staff Report is appropriately detailed for the scope of the project. Please see Common Response 8.1, Economic Analysis and Other Considerations, for regulatory context including a discussion of the level and scope of the analysis, and for information on replacement water supply costs used in the analysis of municipal water supply economic effects.
311	183	[ATT 1:] [Reference:] 8.5.9 Economically Disadvantaged Communities and Drinking Water [Comment:] This section focuses entirely on the impacts on communities that are largely reliant on groundwater. It does not discuss the impacts to large urban disadvantaged communities. EBMUD serves disadvantaged and severely disadvantaged communities in Alameda and Contra Costa counties; approximately one in five EBMUD customers lives in a disadvantaged community. The cost of replacing lost supplies due to the proposed Plan amendments and the Low Flow or High Flow alternative, and the potential for lost revenue from increasing water conservation, would result in significant rate increases that would impact these disadvantaged communities.	The Staff Report provides extensive analysis and sufficient consideration of the economic effects that could occur as a result of the proposed Plan amendments, including to DACs. The Staff Report adequately evaluates municipal water supply economic effects in Section 8.5, Municipal Water Supply Economic Effects. In addition to the discussion provided in Section 8.5, Municipal Water Supply Economic Effects, including Section 8.5.9, Economically Disadvantaged Communities, Section 8.4.4, Agricultural Economic Effects on Economically Disadvantaged Communities, discusses potential agricultural economic effects of the flow scenarios on DACs. In addition, Section 8.5.10, Potential Sources of Funding for Municipal Water Conservation, discusses that a variety of programs are available to provide funding for water conservation efforts in California. Common Response 8.1, Economic Analysis and Other Considerations, provides additional discussion of potential sources of funding for municipal water conservation and alternative water supplies,

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			and includes information relevant to DACs. Also see Common Response 8.1, Economic Analysis and Other Considerations, for response to municipal water rates. Staff Report Chapter 10, Economically Disadvantaged Communities, discusses various financial and technical assistance programs available to assist public water systems serving DACs. These programs are designed to ensure access to safe, clean, and affordable water supplies and maintain compliance with all applicable water laws and regulation. The State Water Board is at the forefront of assisting DACs with obtaining clean, safe, and reliable water supplies. In doing so, the State Water Board is making its commitment to the human right to water through financial assistance, technical assistance, consolidations, SGMA oversight, and other means.
311	184	[ATT 1:] [Reference:] 8.5.10 Potential Sources of Funding for Municipal Water Conservation [Comment:] This section identifies several sources of funding for water conservation, including Proposition 1 and WaterSmart. EBMUD has experience with both these programs; while we appreciate the grant funding, these programs have limitations on how the funds may be used and carry a heavy administrative burden that may be infeasible for smaller water agencies. In addition, the analysis ignores the other barriers to implementing water conservation measures. While funding is a significant barrier, conservation programs take time to implement and are also dependent on customer interest and response.	Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for discussion of potential funding sources for municipal water conservation and alternative water supplies. The Staff Report acknowledges that other water management actions take time, effort, and funding and the pace of implementation will vary depending on project feasibility, resource availability, and competing priorities.
311	185	[ATT 1:] [Reference:] 8.6.2.2 Reservoirs “Overall, while water levels in some reservoirs could change under the proposed Plan amendments and could affect certain recreational opportunities in some locations, the overall economic effects on recreational opportunities at many reservoirs would likely be small” [Comment:] It does not appear that any quantitative assessment was done. EBMUD offers recreation at its Pardee and Camanche reservoirs that would likely be significantly affected by reduced	The environmental and economic analyses presented in the Staff Report are adequate and are appropriately detailed for the scope of the project. The Staff Report acknowledges that potential changes in reservoir storage and elevation may result in recreational impacts and economic effects from the implementation of the flow scenarios. Potential changes in reservoir storage and elevation are identified in 2023 draft Staff Report Section 6.3.2, Reservoir Storage and Elevation, and Appendix A1, Sacramento Water Allocation Model Methods and Results and incorporated into the recreation and economic effects analyses. The SacWAM results presented in Chapter 6,

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		levels under the proposed Plan amendments, Low Flow, and High Flow alternatives.	Changes in Hydrology and Water Supply, and Appendix A1, Sacramento Water Allocation Model Methods and Results, indicate that most of the changes in reservoir elevations would be within historical ranges. Under existing conditions, Sacramento/Delta reservoir elevations fluctuate throughout the year and historically experience substantial changes in water elevation and with implementation of the flow scenarios, most of the changes in reservoir elevations would stay within historical ranges. Pardee Reservoir shows little change in storage under the flow scenarios compared to baseline conditions. For Camanche Reservoir, carryover storage objectives have more effect under drier critical-year conditions and contribute to higher carryover storage compared with baseline. A substantial change in recreational activity such as camping, fishing, and boating, including safety hazards for boating, at these reservoirs is not likely to occur, and the resulting economic effects would not be expected to substantially affect EBMUD's overall budget. As discussed in Chapter 8, Economic Analysis and Other Considerations, the overall economic effects on recreational opportunities at many reservoirs would likely be small. In a few instances, as analyzed in Section 7.18, Recreation, some reservoir boat ramps may become inaccessible more frequently, particularly during critical and dry water years; however, mitigation measures are identified to reduce or avoid these impacts. Please also see Common Response 7.1, General CEQA and Approach to the Analysis, for further discussion of the mitigation measures and the State Water Board's obligations under CEQA.
311	186	[ATT 1:] [Reference:] Table 9.3.1 [Comment:] The description of the Mokelumne River flow assets is incorrect. The 5, 5, and 7 TAF supplied in dry, below normal, and above normal years is based on Sacramento River Index year type. Please see EBMUD's February 6, 2023 comment letter on the draft Scientific Basis Report Supplement for more detail on the Mokelumne River flow proposal.	The Mokelumne River VA flows are now identified based on Sacramento River Index water year types.
311	187	[ATT 1:] [Reference:] Table 9.3-1 "Proposed VA Assets as Modeled" [Comment:] There should be a footnote, or some description	The commenter raises minor wording differences that have no ultimate bearing on the draft Staff Report; therefore no changes were made to the text.

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		stating that the habitat restoration metrics are “minimum required” to meet the narrative objectives	
311	188	[ATT 1:] [Reference:] Section 9.3 – p. 9-5 “Tributary physical restoration actions are meant to restore spawning and rearing habitats sufficient to support approximately 25% of the offspring of the salmon doubling goal populations for each tributary” [Comment:] More accurately described as supporting 25% of the doubling goal population in the 8 year term (i.e., spawning habitat acres are not meant to support 25% of juveniles, but 25% of adult doubling goal population)	The commenter raises minor wording differences that have no bearing on the draft Staff Report conclusions, therefore no changes were made to the text.
311	189	[ATT 1:] [Reference:] Section 9.3, p.9-6 The framework for the VA Science Program is proposed to be collaboratively developed by the VA Parties in coordination with the State Water Board [Comment:] Given that the draft science plan was submitted to the State Water Board staff prior to the draft Staff Report being released, this text should be in the past tense: “was developed collaboratively with the SWB staff”	The commenter raises minor wording differences that have no bearing on the draft Staff Report; therefore no changes were made to the text.
311	190	[ATT 1:] [Reference:] Page 9-6 “However, if the VAs are not expected to achieve the stated objectives, then either 1) new agreements may be negotiated or 2) the State Water Board would use its regulatory authorities to implement the Bay-Delta Plan.” [Comment:] This suggests that, if the VAs do not achieve the stated objective, the State Board would automatically implement the proposed Plan amendments. This is not what is stated in the MOU. The MOU states, “New agreements will be negotiated, or the Bay-Delta Plan’s Program of Implementation will be implemented through the State Water Board’s regulatory authorities and the VA Parties reserve all rights to fully participate in the related regulatory processes, and potential remedies related thereto.”	The State Water Board was not a signatory to the MOU and is not bound by its terms.

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311	191	[ATT 1:] [Reference:] Section 9.3 p. 9-8 The non-flow habitat restoration described below represents the non- flow habitat restoration commitments from Appendix 2 of the VA Term Sheet. [Comment:] Revise to state “minimum required” non-flow habitat restoration commitments from Appendix 2 of the VA term sheet. Same for Table 9.3-2 header.	The commenter raises minor wording differences that have no ultimate bearing on the draft Staff Report; therefore no changes were made to the text.
311	192	[ATT 1:] [Reference:] 9.3.3.6 “The Mokelumne VA flow assets are based on Joint Settlement Agreement water year types.” [Comment:] The Mokelumne VA flows of 5,5, and 7 TAF, in Dry, Below Normal, and Above Normal years respectively are based on Sacramento River Index. Please see EBMUD’s February 6, 2023 comment letter on the draft Scientific Basis Report Supplement for more detail on the Mokelumne River flow proposal.	The Mokelumne River VA flows are now identified based on Sacramento River Index water year types.
311	193	[ATT 1:] [Reference:] 9.3.6, Page 9-13 “The 2019 BiOps condition is different than the Staff Report baseline in that the 2019 BiOps condition is the theoretical assumed starting point for accounting purposes upon which VA assets would be added, rather than a reflection of current or prior existing conditions or baseline.” [Comment:] This sentence is confusing. The 2019 BiOps represent the current biological opinions released by NMFS and USFWS. There is nothing “theoretical” about them.	Please refer to Staff Report Section 9.3.6, Points of Comparison for VA Flow Assets, for an explanation of how the 2019 BiOps were not fully implemented. See also Common Response 6.2, Baseline and No Project Alternative, for details about the baseline used in the Staff Report.
311	194	[ATT 1:] [Reference:] Page 9-17 “The VA assets, however, do not fully match the volumes (volumes can be higher or lower) identified in the VA Term Sheet due to the specific details of the proposed VAs, including the theoretical accounting base upon which the VA flows are added being different than baseline and other points of reference described above, reservoir operations associated with the VAs (including changes in release patterns and issues associated with	The points of comparison used to evaluate the impacts and benefits of the proposed VAs do not negate the VA flow commitments. Please refer to Staff Report Section 9.3.6, Points of Comparison for VA Flow Assets, and Common Response 6.2, Baseline and No Project Alternative, for details about the baseline used in the analysis.

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		refill and spills), the dynamic nature of the modeling and other modeling assumptions, and other details associated with the VAs.” [Comment:] The State Water Board’s choice of baseline(s) should not negate the flow commitments in the VAs. The VA parties are proposing to make real water available. It appears that the State Water Board is trying to use its own arcane accounting to make that water disappear.	
311	195	[ATT 1:] [Reference:] Page 9-17 “The changes in hydrology and water supply are estimated by comparing SacWAM-modeled and post processed results for the proposed VAs with results for baseline, as well as the reference condition utilized in the Scientific Basis Report Supplement for the VAs based on the 2008-2009 BiOps condition, for benefits analysis.” [Comment:] It appears that the State Board is using different “baselines” for its analysis of benefits and impacts. There should only be one baseline.	As stated in the quote provided by the commenter, the benefit analyses were presented relative to the same baseline conditions used for impact analyses. Please refer to Section 9.3.6, Points of Comparison for VA Flow Assets, for more information. See also Common Response 6.2, Baseline and No Project Alternative, for information on the baseline and other points of comparison.
311	196	[ATT 1:] [Reference:] Page 9-17 “Model results are presented throughout the section in graphical and tabular formats that facilitate comparison of the statistical properties of streamflow, reservoir storage, and water supply for the proposed VAs relative to baseline, as well as the 2008-2009 BiOps condition for certain results.” (emphasis added) [Comment:] It is unclear why the State Board is using different baselines for different analyses.	As stated in the quote provided by the commenter, the benefit analyses were presented relative to the same baseline conditions used for impact analyses. Please refer to Section 9.3.6, Points of Comparison for VA Flow Assets, for more information. See also Common Response 6.2, Baseline and No Project Alternative, for information on the baseline and other points of comparison.
311	197	[ATT 1:] [Reference:] Page 9-18 “Flow assets from these projects are not included in the SacWAM modeling of the proposed VAs because water contributions from these projects would begin towards the end of the 8-year period.” [Comment:] It is the intent of the VA proponents – as expressed in the MOU Term Sheet – that if successful, the VAs would	The VA parties did not provide information on these projects so they were not analyzed or included as a component of the VA pathway in the revised proposed Plan amendments.

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		continue to be implemented past the original eight year term. Therefore, it seems important that the State Board should model these new projects, in order to provide the public with a fair and accurate picture of the VAs.	
311	198	[ATT 1:] [Reference:] 9.5.4.5, page 9-69 “that Sacramento/Delta water supply to both agricultural and municipal uses could increase slightly under the proposed VAs. Again, as described above and in Section 9.5.3.9, Delta Inflows, Exports, Interior Delta Flows, and Delta Outflow Results, any increases in exports and associated supplies would not be the direct result of adding the VAs to the Bay-Delta Plan but the possible result of changes in BiOp and ITP related constraints that are not clear at this time.” [Comment:] The State Board should conduct its modeling in such a way that the benefits and impacts of the VA are more isolated. It seems odd that the VAs would result in increased water supply when many VA agencies are committing to reducing their diversions in order to provide the VA flows.	Please see Common Response 6.2, Baseline and No Project Alternative, for responses to comments that raise issues with the baseline.
311	199	[ATT 1:] [Reference:] Table 9.6-2. Rearing Habitat Meaningful Floodplain Events [Comment:] A comparison of this table with Table 3.14-10 suggests that the draft Staff Report is using different baseline MFEs for the Proposed Plan Amendments and the VA analyses. In Section 3.14.2.2, MFE is shown as a percent of simulated years with MFEs, and in Table 3.14-10, the baseline for the Mokelumne River is 69%. However, for the VAs, the table shows number of MFEs instead of percent of years, and show 0 increase (51 vs. 51). If the simulated years is 95, the State’s baseline for the VAs would show 54% of years for Mokelumne would have MFEs (51 / 95). Thus it appears that a different baseline is being used.	The Mokelumne River MFE results have been updated to fix the issue identified by the commenter. This revision does not change the impact or benefit conclusions.
311	200	[ATT 1:] [Reference:] Page 9-81 “Additional uncertainties in VA outcomes arise from the timing of physical habitat restoration completion; assumptions of the suitability of VA habitat assets; limitations in the habitat modeling approaches; the lack of a quantitative connection	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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		between certain aspects of habitat and species abundance; the focus on a few at-risk species; and others” (emphasis added) [Comment:] The VA parties have worked with State Board staff on the development of strict habitat design criteria to ensure that all new habitat is suitable.	
311	201	[ATT 1:] [Reference:] Page 9-109 “While both VA narrative objectives refer to temperature (either directly or indirectly via ‘water quality conditions’), and the VAs are in part intended to avoid temperature impacts, the VAs do not include an explicit commitment to cold water temperature provisions” [Comment:] The Mokelumne VA proposal was explicitly designed to minimize temperature impacts on the Lower Mokelumne River. The flow assets include an offramp when combined storage and Pardee and Camanche drop below 350 TAF in order to ensure EBMUD’s ability to maintain cold water pool. (see for example Appendix G1 page 31 Table 13 Footnote 1 and accompanying description in the paragraph following Table 14. “The purpose of the offramp is to minimize water temperature impacts and preserve cold water resources and achieve downstream temperatures to support the doubling goal of salmonid populations.”)	Text in Chapter 9, Proposed Voluntary Agreements, describing the components of proposed VAs has been modified to acknowledge some VAs contain components to minimize temperature impacts. The “offramp” has been added to Appendix B.1 of the revised proposed Plan amendments.
311	202	[ATT 1:] [Reference:] 9.9.1 page 9-199 “Section 7.2 identifies modular drought alternatives that could be adopted in combination with the proposed VAs, including two modular drought alternatives.” [Comment:] These two modular alternatives are not included in the VA term sheet. If the State Board chooses to implement the VAs, it should not add on additional conditions like 5A and 5B.	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.
311	203	[ATT 1:] [Reference:] 10.5.1.3 State Water Board’s Low Income Rate Assistance Program “The State Water Board’s Low-Income Rate Assistance (LIRA) program provides rate relief for low-income ratepayers of water utilities.” [Comment:] To our knowledge this program does not actually	In response to this comment, several statements regarding low-income rate assistance and State Water Board funding programs have been corrected in the Staff Report, including in Section 7.12.1, Surface Water, Section 7.12.2, Groundwater, Chapter 9, Proposed Voluntary Agreements, and Chapter 10, Economically Disadvantaged Communities. As discussed in Section 7.12.2, the Safe and Affordable Drinking Water Fund established under SB 200 will enable the State Water Board to provide crucial ongoing

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		exist. There is no state or federal program that provides long-term rate assistance to low-income customers.	operations and maintenance support so once-struggling community water systems can provide a sustainable source of safe drinking water. The fund also established the Safe and Affordable Funding for Equity and Resilience (SAFER) program, which supports permanent and sustainable drinking water solutions that ensure all Californians have access to safe, affordable, and reliable drinking water. The State Water Board also prepared a report titled Recommendations for Implementation of a Statewide Low-Income Water Rate Assistance Program regarding feasibility, financial stability, and desired structure of a low-income water rate assistance (LIRA) program. Rate relief for low-income ratepayers of water utilities remains a priority for the State of California and for the State Water Board. Within Chapter 10, Economically Disadvantaged Communities, the section on the State Water Board's Low-Income Rate Assistance Program, has been removed from the final Staff Report. This change and other revisions to Section 7.12.1, Surface Water; Section 7.12.2, Groundwater; Chapter 9, Proposed Voluntary Agreements, and Chapter 10 in response to this comment do not change the conclusions of the Staff Report's environmental analysis.
311	204	[ATT 1:] [Reference:] Appendix A1 page A1-88 [Comment:] Table A1-57 Water Year Average of Monthly Flows (cfs) - Mokelumne River Above Pardee Reservoir (SWRCB Pardee Inflow) presents the results broken down by year type. However, the year type is not defined. It appears that the year types used may be the Sacramento River index which would significantly diminish the information value of the table since the hydrologic conditions of the Mokelumne would be mixed if broken down in this way.	Table A1-57 uses the Sacramento water year type, consistent with all other tables in the draft Staff Report presenting results by water year. A clarification has been added to Appendix A1, Sacramento Water Allocation Model Methods and Results, of the Staff Report.
311	205	[ATT 1:] [Reference:] Appendix A1, Section A1.3 Reservoir Carryover Storage Targets 2nd sentence. "End-of-September storage is a valuable indicator of the volume of cold water available throughout the critical temperature season of summer through early fall."	Please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for discussion of implementation of the cold water habitat objective.

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		[Comment:] While the end-of-September (carryover) storage is a valuable indicator, carryover storage in and of itself is not a sufficient condition resulting in adequate cold water supply. Carryover storage alone is not enough to ensure adequate temperature management outcomes. The assumption that it is a necessary and sufficient condition is a fatally flawed assumption. In the next sentence, authors argue that the carryover storage target is, “a mechanism to roughly represent the narrative objective.” This is a false premise for the reason stated above; it is not itself a sufficient condition that would be needed for consistency with the narrative objective particularly as related to cold water pool adequacy (see comment below on Appendix A1, Section A1.3).	
311	206	[ATT 1:] [Reference:] Appendix A1, Section A1.3 Reservoir Carryover Storage Targets, 5th sentence “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.” [Comment:] This approach to adjust the narrative alternative results to limit negative environmental effects is impractical and unrealistic because it is predicated on results from the baseline scenario. In other words, the target is derived from the baseline with the proposed alternatives “adjusting” allocations to meet this target purportedly to minimize environmental effects. However, in real-time operations such criteria would not be available or known. Therefore, the operations reflected by the narrative alternatives is unrealistic and impractical. Clearly, cold water pool protection is a conflicting objective with the unimpaired flow narrative objective yet there is no adequate quantitative analysis of how these competing objectives are traded off provided in the draft Staff Report.	Text in Section A1.3, Reservoir Carryover Storage Targets, has been edited to correct the statement regarding implementation of the carryover storage targets. The statements should have referenced reservoir buffer pools being adjusted, and not the carryover storage 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. Please see Appendix H1a1 for information on how staff evaluated the updated carryover storage target ranges. Please also see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for discussion of the implementation of the cold water habitat objective and flexibilities included in the revised proposed Plan amendments related to long-term temperature management strategy and refinement of the carryover storage target ranges.
311	207	[ATT 1:] [Reference:] Appendix A1, Section A1.3 Reservoir Carryover Storage Targets, 2nd paragraph 1st sentence “Where previous studies have identified carryover storage targets to maintain downstream temperatures for rim reservoirs	Appendix H1a1, Assessment of Effect of Reservoir Storage on Reservoir Release Temperatures, provides background information for updated carryover storage target ranges that are included in the December 2025 draft Bay-Delta Plan. The lower end of the ranges is 150 TAF, which is partially based on a cited

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		such as Shasta Reservoir and Camanche Reservoir, these carryover targets were assumed.” [Comment:] Authors cite to “previous studies” but do not provide a citation to such studies. The citation provided (later) in Table A1-3 Assumed Reservoir Carryover Storage Targets to Maintain Downstream Cold Water Habitat is “Communications with EBMUD Staff” and there are no further references or citations provided in Section A1.13 References. Note that this approach is in contrast to that taken by the draft Staff Report with Shasta Reservoir, in which the carryover storage target is referenced to the 2009 NMFS Biological Opinion. In fact, and contrary to the inference that EBMUD staff recommended such an approach, on several occasions EBMUD staff have cautioned against the use of a carryover storage target as a means of assuming adequate downstream temperatures are met and have provided numerous examples and evidence to support this position. EBMUD staff have met with State Board staff to discuss this on numerous occasions (see attached Modeling Tech Memo for more details). Over the course of several meetings, discussions, and workshops significant information was provided to State Board staff to convey the following facts. 1. Cold water resources are a limiting factor in most years under existing regulatory constraints. 2. Infrastructure constraints present challenges to temperature management. 3. Imposing additional required releases would result in further reductions to the cold-water volume and increase the likelihood that JSA criteria could not be met in the future. 4. If additional required releases result in a greater volume than the amount of cold- water runoff to Pardee, clearly a minimum carryover storage would be ineffective to prevent significant increases in fall during fall run chinook spawning and would likely result in an increase in mortality to the fishery.	personal communication (email) from Ben Bray regarding relationship between fall storage in Camanche Reservoir and attainment of the hypolimnetic volume objective of the Joint Settlement Agreement (. (Bray, Benjamin, EBMUD. February 14, 2018 - Email regarding Storage Temperature of Camanche Reservoir modeling)). This communication with EBMUD staff was referenced in Appendix A1, Sacramento Water Allocation Model Methods and Results, and Appendix A1 has been modified to provide this detail. Appendix H1a1 and Section 13.7.6.2, Aquatic Biological Resources, acknowledge that attainment of carryover storage within the target ranges may not fully protect downstream temperatures. Additional measures may be necessary to meet the cold water habitat objective as described in Section 13.7.6.2 and Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat. This common response includes discussion of implementation of the cold water habitat objective and flexibilities included in the revised proposed Plan amendments related to long-term temperature management strategy and refinement of the carryover storage target ranges.

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		5. Limiting Mokelumne aqueduct diversions would result in a significant additional volume of warmer water in the Mokelumne Reservoir system as diversions occur higher in the water column at Pardee reservoir. Finally, the end-of-September Camanche Reservoir carryover storage target recommended by State Board staff would not only be ineffective in assuring cold water releases in fall, it would be redundant with existing regulatory requirements established by the JSA (see section F.5 on page 8). Furthermore, the end of September target would be less effective because it is applied earlier in the spawning season (end-of-September versus end-of-October in the case of the JSA) and is an indirect measure of cold water (i.e. total reservoir storage) rather than a direct and explicit definition of the hypolimnion or cold-water pool (see Lower Mokelumne River Project Water Quality and Resource Management Program page 4).	
311	208	[ATT 1:] [Reference:] Page A1-17 “When cutbacks to EBMUD occur that are greater than 25 percent, cutbacks also are triggered for lower Mokelumne diversions. ... This assumption acknowledges the seniority of downstream users; however, it does explicitly represent the water rights of each user in the watershed.” [Comment:] There is no basis provided to justify this assumption.	Table 7-62 of the SacWAM Documentation (available on the State Water Board’s Bay-Delta webpage) provides the water allocation priorities used in SacWAM. As described in Section A1.1.6, Model Limitations, of Appendix A1, Sacramento Water Allocation Model Methods and Results, SacWAM includes generalized grouping of water rights and the relative priority between types of water users. However, it does not include precise priority dates for each individual water right in the Sacramento/Delta watershed, nor is SacWAM required to possess that level of granularity in order to support the Staff Report’s analysis. Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding the scope, scale, and application of SacWAM. Additional water right refinements and opportunities for public review will occur with the development of the Implementation Methodology and Curtailment Regulations contained in the revised proposed Plan amendments and further discussed in Common Response 1.3, Revised Proposed Plan Amendments.
311	209	[ATT 1:] [Reference:] Page A1-17 last paragraph, 2nd to last sentence.	Appendix A1, Sacramento Water Allocation Model Methods and Results, has been clarified in response to this comment.

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		"Lower Mokelumne diversions are cut on an annual basis by 25 percent less than the cutbacks by EBMUD." [Comment:] This assumption is not consistent with the data on the following page (A1-18) in Table A1-12.	
311	210	[ATT 1:] [Reference:] Page A1-18, Table A1-12 the assumed Maximum EBMUD Cutback [Comment:] There was no analysis provided in the draft Staff Report regarding the feasibility of cutbacks at this scale (>25%) and how these demand cutbacks relate to minimum public health and safety levels.	Impact UT-d as described in the Staff Report includes a regional analysis of effects on urban water suppliers, including the region served by East Bay Municipal Utility District, and can be found in the impact analysis of Section 7.20, Utilities and Service Systems. Due to the large scope of the project, impacts were analyzed on the regional scale rather than on the scale of individual municipal utility districts.
311	211	[ATT 1:] [Reference:] Page A1-18, 1st paragraph, last sentence "The resulting carryover storage in Pardee and Camanche Reservoirs and reductions in diversions are calculated by the allocation logic that is described in detail in the SacWAM documentation (^SacWAM 2023)." [Comment:] The draft Staff Report cross-references the SacWAM model manual for the "details" relating to the allocation logic. No further information is provided in the draft Staff Report. EBMUD has followed the draft Staff Report's suggestion and has reviewed the model manual, and finds that the promised "details" are not fully provided. For example: From a review of the SacWAM documentation, the only location where model logic description was found was in Chapter 7 starting on page 7-29 through page 7-31 where 7-32 to 7-33 describe logic related to another water user, JVID. The relevant section is apparently section 7.9.7.2.2 EBMUD Percent Cutback. The description in this section is not detailed, is not consistent with Table A1-12 in Appendix A, and is not consistent with the modeled output for the existing condition and alternative scenarios. Furthermore, a description of how the cutback may be modified for unimpaired flow and/or VA scenarios is not provided. The second paragraph of Section 7.9.7.2.4 describes the	Section 7.9.7.2.2 of the SacWAM Documentation (available on the State Water Board's Bay-Delta webpage) describes East Bay Municipal Utility District Percent Cutback, which is just one of the variables used in SacWAM. Additionally, the SacWAM Documentation lists contain information on the assumptions associated with the baseline simulations; additional changes made to model assumptions for the different flow scenarios are described in Appendix A1, Sacramento Water Allocation Model Methods and Results. Section 7.9.7.2.4 of the SacWAM Documentation appears to be complete and this commenter does not specify what analysis they believe to be missing. The user-defined constraints (UDCs) in SacWAM are activated. The SacWAM Documentation has been revised.

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		procedure for estimating the variable “ProjectedDryYearCarryoverStorage” that appears to be incomplete and, therefore, may produce inaccurate results. The only other portion of logic description within the SacWAM documentation was found in Chapter 8 Section 8.21 Mokelumne starting on page 8-43 through 8-45. However, the last sentence of the paragraph under Section 8.21.2 states, “This approach is no longer used in SacWAM and all associated decision variables and UDCs have been deactivated.” This statement appears to render the remainder of the section content apparently irrelevant to the draft Staff Report. All other references to the Mokelumne or EBMUD operations simply are tabular descriptions of model features, points of interest, or gauge locations (see Tables 3-2, 3-3, 4-3, 6-3, 6-5, 6-6, 6-7, 6-8, 6-9, 6-10, 6-12, 6-20, 6-23, 7-1, 7-62, and page 9-5 for list of reservoirs with various storage constraints) or a simple description of existing criteria (see Section 3.9.3.1, Section 3.9.3.13 through 3.9.3.14.3, Section 7.9.3.1, Section 7.9.5, Section 7.9.10, Section 8.16, and Section 9.20.7) but do not provided detailed logic information that is cross referenced on draft Staff Repor Page A1-18.	
311	212	[ATT 1:] [Reference:] Appendix A7, page A7-2 2nd paragraph, 2nd to last sentence. “Several tributaries (Antelope Creek, Bear Creek, Mokelumne River, Paynes Creek, and Stony Creek) currently lack an active telemetered CDEC streamflow record for the lower watershed, but historical streamflow records or real-time river stage information are available for some of these tributaries.” [Comment:] This statement acknowledges that real-time data are unavailable which presents a major obstacle to implementation to real-time operations. There should be additional discussion to address this gap.	A comprehensive program for monitoring, assessment, special studies, and reporting is necessary to implement the proposed updates to the Bay-Delta Plan. New streamflow gages, temperature monitoring, and other monitoring devices may be installed on streams or reservoirs to monitor compliance with the Plan amendments—particularly in locations where such devices currently are not in place. (See Section 7.22, New or Modified Facilities, for evaluation of construction projects, including the installation of new streamflow gages.) The BDMEP is proposed to (1) incorporate existing monitoring, assessment, and reporting programs, to the extent possible, to avoid duplication; and (2) identify additional or revised monitoring, assessment, reporting, and special studies activities in coordination with watershed partners. Additionally, specific monitoring needs will be further developed for the Water Right Implementation Methodology.
311	213	[ATT 1:] [Reference:] Section A1.1.2 Mass Balance Considerations on page A1-3, 4th sentence	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not

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		"Because the mass balance must be preserved, each of the scenario simulations shows different uses of the same total volume of water." [Comment:] Some terms in the water balance such as reservoir evaporation are not "uses" hence it would be more accurate here to use a word like "partition" as each of the scenario simulations reflect a different partitioning of the same amount of water where the total water is partitioned or broken down into the different terms that make up the water mass balance equation.	raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
311	214	[ATT 1:] [Reference:] On page A1-7 Section A1.2.2, 1st paragraph, last two sentences: "Implementation of the proposed Plan amendments may differ from the model assumptions based on the ecological needs in individual tributaries and water rights priorities. How users may respond to the proposed Plan amendments may also differ from modeled responses based on water transfers, conservation, and other unforeseen responses." [Comment:] This appears to suggest that the implementation of the narrative objectives would differ from the modeled alternatives. If that's the case, the impacts associated with the modeled alternative may differ from the actual implementation. Therefore, the draft Staff Report may not provide adequate coverage of the proposed action under the implementation phase; in particular, in the case that the flow obligations substantially differ in the modeling than would result from application of water rights priority. It seems like the lack of modeling via water rights priority is a significant conceptual gap because it would differentially redistribute impacts disclosed under the modeling in the draft Staff Report.	The proposed Plan amendments are proposed to be implemented consistent with water right priorities subject to certain exceptions for health and safety. The modeling is sufficiently detailed for the purpose of this planning effort. The Sacramento Water Allocation Model (SacWAM) is a model that helps estimate the potential changes to hydrology and water supply that could occur as a result of the Plan amendments. Model results are presented for changes in hydrology under various scenarios, including changes in streamflows and reservoir levels, and changes in Sacramento/Delta water supply under various scenarios. SacWAM results are intended to be used in a comparative manner, which allows for assessing the changes in system operations and resulting incremental effects between scenarios. SacWAM has a detailed representation of hydrology and operations of the Sacramento Bay-Delta watershed. General relative groupings of priorities have been included in the model, but it was necessary to combine many points of diversion, which makes identifying one priority for each diversion difficult. Additional water right refinements and opportunities for public review will occur with the development of the Implementation Methodology and Curtailment Regulations contained in the revised proposed Plan amendments and further discussed in Common Response 1.3, Revised Proposed Plan Amendments. The sentence referenced in the comment is referring to specific provisions in the Plan that provide certain flexibilities through adaptive implementation and local cooperative solutions. Provisions for adaptive implementation of the numeric inflow

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			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 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 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.
311	215	[ATT 1:] [Reference:] On page A1-14 Table A1-7. Minimum Potential CVP Allocation by Contract Type. [Comment:] The constraints in the table are not consistent with current U.S. Bureau of Reclamation Policy. Furthermore, modeled results are not consistent with Table A1-7.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for a response to comments regarding modeling of CVP allocations and obligations. Table A1-7 has been updated to correctly reflect the minimum CVP contract allocations for each scenario.
311	216	[ATT 1:] [Reference:] Table A1-554. Page A1-462, there is a listing of violations in existing constraints. Specifically rows 5 through 12 refer to Lodi Decree requirement violations in number of months and as a percentage in parenthesis. [Comment:] This table indicates that there are times when the proposed Plan amendment alternatives are conflicting with other legal requirements in the basin. The State Board will need to clarify what compliance means in this context if both conditions cannot be simultaneously met.	There was a modeling error in the complex flow requirements related to hydropower operations in the upper North Fork Mokelumne resulting in requirements not being off-ramped during lower storage conditions in baseline and the alternatives. The model has been updated to improve the representation of the Lodi Decree Requirements in the upper watershed. Additionally, the revised proposed Plan amendments include adaptive implementation provisions that may be used to integrate, as appropriate, Bay-Delta Plan requirements with water quality certification requirements, water right orders, or other existing environmental requirements.
311	217	[ATT 1:] [Reference:] Appendix D, Section D.2 Municipal Demand and Supply Projections for the 5th Consecutive Dry Year [Comment:] This section presents data from UWMP analyses showing the supply shortage level at the end of a fifth consecutive dry year. Urban water suppliers are required to conduct this analysis as part of their Water Shortage Contingency Plan. The results of this analysis should not be used	Information tabulated in Section D.2, Municipal Demand and Supply Projections for the 5th Consecutive Dry Year, is a part of the water service reliability assessments, which characterize water uses and supplies under varying hydrological and development conditions through at least a 20-year time horizon. Realistic water supply reliability is a required part of UWMPs and is separate from WSCP. To be conservative, Appendix D, Supplemental Municipal Supply Analysis Information, considers

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		to infer anything regarding supply reliability under the proposed Plan amendments or the Low Flow, or High Flow alternatives, because the WSCP analysis is intended to show that agencies can respond to short-term shortages like droughts. The types of response actions that are appropriate for short term temporary supply shortages may not be appropriate for the kinds of permanent cutbacks that the draft Staff Report proposes.	only shortage or surplus after 5 consecutive dry years, as supply is expected to be more limited than for a normal or a single dry year. The Staff Report uses the WSCP information to infer types of response to a supply reduction of up to 10 percent, finding that responses to supply reductions of up to 10 percent most commonly include demand management measures. However, WSCP actions are not a solution that can replace a longer-term response, such as to decreased water supply due to implementation of flow requirements, which may involve investment in new or augmented water sources. While suppliers may continue to develop alternative supplies, and implement operational changes, demand management measures would still be an appropriate part of response to long-term changes in Sacramento/Delta supply availability.
311	218	[ATT 1:] [Reference:] Table D-4 [Comment:] The demand listed for EBMUD is inaccurate. EBMUD's Planning Level of Demand in its 2020 UWMP was 181 MGD, or 202,880 acre-feet per year.	Table D-4 in Appendix D, Supplemental Municipal Supply Analysis Information, lists 2030 projected demand for the 5th consecutive dry year, hence the difference in numerical values compared to annual demand. Please see the discussion regarding data sources at Section D.2, Municipal Demand and Supply Projections for the 5th Consecutive Dry Year.
311	219	[ATT 1:] [Reference:] D.3 Municipal Supply Economic Effects Analysis [Comment:] As discussed in the comments on Chapter 8, the assumption that water suppliers can simply make up ten percent of their annual average existing supplies via demand management measures, at no cost, is entirely erroneous.	Please see response to comment 311-180 regarding water availability and cost. Section 8.3.6.2, Municipal Demand Management Measures, acknowledges that costs of water conservation can vary considerably by user (e.g., residential, commercial, or municipal) and the measures implemented. It provides the ranges of cost saving of several residential water efficiency measures. It also notes that urban water conservation and efficiency are the most cost-effective ways to meet current and future water needs, as compared to developing alternative water supplies. A negative conservation cost, which saves the customer more money over their lifetime than the cost to implement, does not mean implementation costs nothing. Additional text has been added to Section 8.3.6.2, Municipal Demand Management Measures, that includes examples of conservation programs and costs associated with those programs.
311	220	[ATT 1:] [Reference:] D.3 Municipal Supply Economic Effects Analysis "The amount of Sacramento/Delta supply was obtained from the	The Staff Report provides extensive analysis and sufficient consideration of the municipal water supply economic effects that could occur as a result of the proposed Plan amendments that is appropriately detailed for the scope of the project. The

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		Sacramento Water Allocation Model (SacWAM) results for existing conditions and the modeled flow scenarios... The “Lower Bound” shows the volume of replacement supply (in AF) required after DMM are implemented. The “Upper Bound” value shows the total volume of water needed to fully replace the reduction in the Sacramento/Delta water supply.” [Comment:] It is unclear what results are being used to calculate the volume of lost Sacramento/Delta supply; it appears to be median values. If the draft Staff Report is using an average for this evaluation, it is underestimating the costs of supplies or overstating the ability of suppliers to make up the lost supply during the most extreme cutbacks. For EBMUD, a review of the SacWAM modeling results shows a maximum year cutback of 88% compared to baseline. There is no assessment of whether it would be possible to offset this significant reduction in water supply.	municipal supply analysis does not purport to identify the economic effects that would occur under the maximum year reduction in Sacramento/Delta supply. Municipal water supply economic effects would be expected to be greater than average during certain years and less than average during other years. As discussed in Section 8.5.1, Approach to Analysis, the amount of reduced Sacramento/Delta supply was obtained from SacWAM for the modeled flow scenarios. Model results are conservative estimates as they do not account for flexibilities 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 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. Failure to consider the flexibilities when interpreting the estimated effects can result in overstating the actual changes in supply that would result from Plan implementation. The use of SacWAM average annual reduction in Sacramento/Delta supply for municipal uses provides a reasonable basis for the analysis of municipal water supply economic effects, which discloses a range of potential municipal water supply economic effects represented by a lower bound and an upper bound that would be expected on an average annual basis. Because the upper bound assumes the acquisition of additional water supplies to completely replenish any reserves used to fully replace the reduced Sacramento/Delta supply, the upper bound estimate covers a scenario where water conservation or use of reserve supply is either not feasible or costs more than acquiring a replacement supply. EBMUD maintains a diversified water supply portfolio, has access to multiple sources of water supplies, and operates

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			multiple reservoirs, including multiple Bay Area terminal reservoirs, that provide for storage of water supplies that can be used during periods of water shortage. Please see Common Response 7.20, Utilities and Service Systems, for discussion of how Staff Report relied on water service reliability data from 2020 UWMPs to assess service providers' ability to use existing alternative supplies, develop alternative water supplies, or manage demand.
311	221	[ATT 1:] [Reference:] Table D-18 San Francisco Bay Area: Cost Analysis – Water Supply Source Type and Unit Cost by Relative Weighting [Comment:] While the text says that the relative weighting was developed based on a review of UWMP, it is not clear how this was applied. For example, the tables list a Sacramento groundwater banking project as a potential supply source for EBMUD, but EBMUD has no Sacramento groundwater banking project. Further, this analysis does not consider the potential effects on different supplies from a percent of unimpaired flow alternative. The table weights water transfers most heavily for EBMUD, but under the proposed Plan amendments, Low Flow, and High Flow alternatives, water transfers may not be available in sufficient quantities to offset the lost supply, especially in Critically Dry years.	Appendix D, Supplemental Municipal Supply Analysis Information, contains supplemental material supporting the analysis of the potential effects of new and revised flow requirements on municipalities. Table D-18, San Francisco Bay Area: Cost Analysis - Water Supply Source Type and Unit Cost by Relative Weighting, provides the relative weightings for San Francisco Bay Area municipal water suppliers, including EBMUD (identified as U_EBMUD_NU in Table D-18). Non-zero weighting factors are provided to indicate that a portfolio option may be considered as a replacement source of supply for that provider. The values indicate relative weighting, where a higher number indicates greater potential reliance on that option in terms of water supply volume. The weighting factors were developed through review of individual UWMP documents and consideration of the California Department of Water Resources aggregated 2020 UWMP database for most of the affected water suppliers. For affected water suppliers for which UWMPs were not available, other local planning documents, such as Integrated Regional Water Management Plans and water district planning documents, were relied upon. Documents relied upon to develop the weighting factors are provided in Section D.4, References Consulted. Table D-18 weights water transfers most heavily for EBMUD based on review of information contained within EBMUD's UWMP, although several other portfolio options are also identified. This approach was taken to ensure that the analysis did not omit any reasonably foreseeable water supply categories. For example, groundwater included as a portfolio option for EBMUD, is assigned a relative weight of 1 out of 17 in Appendix D, Supplemental Municipal Supply Analysis Information, to

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			indicate that a portfolio option may be considered as a replacement source of supply for that provider; no weight was assigned to groundwater storage and recovery as it is not considered in this analysis as a replacement source for EBMUD. Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments on the impact of the unimpaired flow alternatives on the price of water, feasibility and costs of water transfers replacement water supplies options, and cost ranges.
311	222	[ATT 1:] [Reference:] Table D-19 [Comment:] As discussed in the comments on Chapter 8, the draft Staff Report significantly understates the costs of supplemental supplies. EBMUD recreated the cost estimate development using its own unit costs. For the 45% unimpaired flow, upper bound, EBMUD calculated an annual cost of \$91 Million, almost double the \$54 Million cited by the draft Staff Report. EBMUD's fiscal year 2025 estimate from the budget for revenue from water rates was \$742.4, so a \$91 Million/year added cost could equate (very roughly) to a 12.3% rate increase, on top of whatever other rate increases are needed for inflation, capital projects, new regulations, etc.	Please see Common Response 8.1, Economic Analysis and Other Considerations, for information on replacement water supply costs used in the analysis of municipal water supply economic effects, and for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	223	[ATT 1:] [Reference:] Appendix G1, 3.7.2 Default Implementation Schedule - Table 35 [Comment:] In the cell that corresponds to the "Years 1-31" column and the "Fish passage improvements3 (# of projects)" row, the text should read "3 Screens5 (1.71 acres of In-Channel rearing habitat)". Also, Footnote number 5 should read "5Site #1 = 11.4 cfs; Site #2 = 11.4 cfs; Site #3 = 11.4 cfs; Total cfs = 34.2; Total acres = 1.71". Furthermore, in the cell that corresponds to the "Totals2" column and the "Fish passage improvements3 (# of projects)" row, the text should read "6 Screens (2.01 acre of In-Channel rearing habitat)".	Appendix G1, Voluntary Agreement Proposal, was not substantively modified from the content developed and submitted by VA parties, including the commenter.
311	224	[ATT 1:] [Reference:] Appendix G1 /Appendix D after p.239 (p. 4)– Draft Early Implementation Projects [Comment:] The acreages for the Mokelumne in the table are not correct. Correct numbers should include:	Appendix G1, Voluntary Agreement Proposal, was not substantively modified from the content developed and submitted by VA parties, including the commenter.

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		- Gravel maintenance 0.87 plus gravel enhancement of 1.27 for a total of gravel 2.14 acres. - Floodplain should be 3.67 acres. - Screens (in channel rearing) should be 0.87	
311	225	[ATT 1:] [Reference:] Appendix G2, page ES-6, Figure ES-1 and Table ES-2. Spawning Habitat Results Compared to the VA Term Sheet Commitments and the Habitat Required to Support 25 Percent of the Doubling Goal. [Comment:] The January draft SBRS defined Mokelumne baseline spawning habitat as 11.94 acres. Without any explanation, the revised SBRS now sets the baseline spawning habitat at 5.97. This results in a change: whereas before it appeared that the Mokelumne was already exceeding the doubling goal currently, in the revised SBRS it appear as though the Mokelumne is not meeting that target. However, the 11.94 acre baseline has been EBMUD's understanding since 2018 based on EBMUD data inputs and VA discussions with CDFW and their consultant. In the January 2023 SBRS, modeling conducted by FlowWest that was parameterized by data collected in situ by EBMUD biologists determined that the Mokelumne River in fact has 11.94 acres of spawning habitat and the attached link still shows this value as Mokelumne baseline (https://flowwest.shinyapps.io/rearing-habitat/). The SBRS text, tables, and analysis should be revised to use the correct baseline of 11.94 acres.	Please see the response to comment 311-80.
311	226	[ATT 1:] [Reference:] Appendix G2, page ES8, Table ES- 3 Rearing Habitat Results Compared to the VA Term Sheet Commitments and the Habitat Required to Support 25 Percent of the Doubling Goal [Comment:] The revised SBRS shows no change from MFEs in the reference condition with the VA condition. That cannot be correct; the VAs cannot be filling the floodplain with water, but showing no change in the number of events. The problem lies	Since the MFE metric is based on the frequency, magnitude, and duration of floodplain duration it is possible for additional flow to result in no change in the MFE metric. Please see Section 1.3.1.8, Hydrology and Operations Modeling, 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 response to comments received on the January

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		with the 2 month criteria, which is a modeling artifact and not a real condition. Also the proposed Mokelumne VA acres from the term sheet are 25 acres, not 26 as shown in the revised SBRS. It is unclear why the acreage to support 25% is now listed as 19 – it was 25, which is why EBMUD committed to 25 acres in its VA proposal.	2023 draft Scientific Basis Report Supplement suggesting that a monthly timestep was not sufficient to capture sub-monthly benefits of the VA assets. In addition, the VA parties did not release sub-monthly schedules for VA flow releases. The default VA flow schedules included in the draft VA Strategic Plan in Appendix G1, Voluntary Agreement Proposal, of the 2023 draft Staff Report have a monthly timestep. Furthermore, as described in Appendix G2 of the 2023 draft Staff Report, the MFE analysis used a conservative approach so suitable habitat would be guaranteed. Table ES-3 in Appendix G2 represents results for combined instream and floodplain rearing habitat. The combined Mokelumne VA commitment for both categories is 26 acres. The methods for calculating the habitat needed to support the doubling goal populations were described in Section 5.1.2, Calculating Habitat Needed to Support Doubling Goal Population, of Appendix G2 of the 2023 draft Staff Report.
311	227	[ATT 1:] [Reference:] Appendix G2-2.1.5 Physical habitat loss [Comment:] EBMUD is committed to gravel enhancement and maintenance to promote spawning habitat. In the early 2000's EBMUD contracted with UC Davis (Dr. Greg Pasternack) and developed a SHIRA (spawning habitat integrated rehabilitation approach) model. EBMUD calculated a sediment budget, increased the bedslope of the first 1 mile of stream, built up the spawning habitat to as designed, and are currently in a maintenance phase that requires EBMUD to put 500-1000 cubic yards of spawning gravel at the top of the reach annually to supplement the sediment supply. Additionally, EBMUD calculates digital elevation models (DEMs) of all of its habitat work annually, and can reestablish critical riffles that may have degraded due to high flows. This approach will reduce spawning habitat degradation through natural migration of sediment through the system, while also helping to establish gravel bars further downstream by feeding the river the sediment it needs for bar formation.	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.
311	228	[ATT 1:] [Reference:] Appendix G2, Table 5-3 Potential Acreage of Early Implementation Projects by Habitat Type and Tributary [Comment:] The table shows 14.67 acres of early implementation for the Mokelumne, but this is incorrect; it	As described in the footnotes to the table referenced by the commenter, the difference in early implementation acreage is due to different definitions of early implementation used in various sections of the draft VA Strategic Plan included in Appendix G1, Voluntary Agreement Proposal, of the 2023 draft

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		should state 3.67. Also it shows the commitment as 226 acres, when it should be 25.	Staff Report. The estimates in this table represent the maximum acreage that may fall into the early implementation category. The Mokelumne floodplain rearing habitat acreage commitment has been corrected.
311	229	[ATT 1:] [Reference:] Appendix G2, Table 5-5 Sources for Spawning Habitat Versus Flow Relationships and Modified Spawning Habitat Availability as Proposed in the VAs [Comment:] The table says, “no spawning habitat committed” for the Mokelumne. This should be clarified to say that this is because no deficit in spawning habitat was determined by modeling.	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.
311	230	[ATT 1:] [Reference:] Appendix G2- page 5-16 [Comment:] We disagree with the overall use of MFE as a metric for the Staff Report, as it is not peer reviewed and cannot be considered the best available science.	All methods from the 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, including MFE, have been peer reviewed. Please see Common Response 3.1, Fish Protection, for information on the scientific basis reports and application of best available science in the Staff Report.
311	231	[ATT 1:] [Reference:] Appendix G2, page 5-16 “intra annual frequency” [Comment:] The State Water Board stated that “targeted intra-annual frequency is a desired inundated area occurring in at least 2 months during the rearing season.” Yet published inundation criteria provide that 15-18 days of inundation is suitable; there is no justification for 2 months.	As described in Section 5.1.3.4, Floodplain Habitat Evaluation, 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, repeated flood pulses of sufficient duration have been found to support native fishes (Grosholz and Gallo 2006). This is the support for the MFE requirement for at least two flood events. As summarized in this section, the benefits of floodplain inundation increase up to at least 21 days duration. Given the monthly timestep of the SacWAM modeling and the conservative approach to the MFE metric, this was translated into a requirement for a 1-month duration for each flood event. The requirement for two events of 1month duration result in the 2-month requirement used in the MFE analysis.
311	232	[ATT 1:] [Reference:] Appendix G2, page 5.1.4 – Application of Temperature Criteria for spawning and rearing habitat	The analysis has been updated to use data from below Camanche for spawning and from Elliot Road for rearing in Chapter 13, Revised Proposed Plan Amendments, and the Scientific Basis

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		[Comment:] Using the same gage data (Elliott rd.) for both spawning and rearing is inappropriate. Use of EPA 2003 criteria for spawning criteria is inappropriate for California salmonids, and too restrictive. A range of literature for rearing temperatures was used to derive the appropriate temperature for rearing, given other factors; the same should be done for spawning temperatures. We suggest using the Water Forum Technical memo (Bratovich et al 2020).	Report Supplement. This revision does not change the impact or benefit conclusions. Please see Common Response 3.1, Fish Protection, for a response to comments on the temperature thresholds.
311	233	[ATT 1:] [Reference:] Appendix G2, 6.1.1 Salmonid Habitat Results: Spawning Figure 6-1. Median (across All Years) Spawning Habitat (Acres) under Reference Condition, VA, and Flow Flexibility Scenarios for Each Watershed [Comment:] Similar to the issue with Figure ES-1, this figure represents a change from the January draft SBRS. The January draft SBRS defined Mokelumne baseline spawning habitat as 11.94 acres. Without any explanation, the revised SBRS now sets the baseline spawning habitat at 5.97. This results in a change: whereas before it appeared that the Mokelumne was already exceeding the doubling goal currently, in the revised SBRS it appear as though the Mokelumne is not meeting that target. However, the 11.94 acre baseline has been EBMUD's understanding since 2018 based on EBMUD data inputs and VA discussions with CDFW and their consultant. In the January 2023 SBRS, modeling conducted by FlowWest that was parameterized by data collected in situ by EBMUD biologists determined that the Mokelumne River in fact has 11.94 acres of spawning habitat and the attached link still shows this value as Mokelumne baseline (https://flowwest.shinyapps.io/rearing-habitat/). The SBRS text, tables, and analysis should be revised to use the correct baseline of 11.94 acres.	Please see the response to comment 311-80.
311	234	[ATT 1:] [Reference:] Appendix G2, Table 6-2 (p.6-9) and Figure 6-4 (p. 6-8) [Comment:] In the January 2023 SBRS, the Mokelumne River was	The instream rearing habitat results for the Mokelumne River were similar in the January 2023 draft Scientific Basis Report Supplement and the September 2023 final draft Scientific Basis Report Supplement and any small differences did not impact the

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		shown as deficient by 1 acre (hence, EBMUD's commitment to 1 acre); now it says EBMUD is meeting in stream rearing requirements. Please provide an explanation for this change.	conclusions. The January 2023 draft Scientific Basis Report Supplement analyzed the MOU habitat commitments; it did not provide the justification for the quantity of those assets. A summary of how the report was revised between the two drafts is provided in Section 1.3.1, Response to Comments on the Draft Supplement Report, 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.
311	235	[ATT 1:] [Reference:] Appendix G2, Figure 6-6 Meaningful floodplain event occurrence [Comment:] The analysis is flawed in its use of the MFE and a model with a monthly timestep. It makes it appear as though there is no benefit of VA actions. The model is a 2 month timestep, so it does not properly assess the benefits of 15-18 day inundation targets set forth in the BET process. The MFE metric is not peer reviewed, does not exist in the published literature, and cannot be considered best available science. There are multiple published literature sources for floodplain inundation, and 2 months is not required to provide optimal floodplain habitat. There is scientific, peer-reviewed literature that has established criterion for maximizing floodplain productivity to the benefit of juvenile salmonids (21 days inundation; Grosholz and Gallo, 2006).	Please see the responses to comments 311-81, 311-230, and 311-231.
311	236	[ATT 1:] [Reference:] Appendix G3a.2.5.6 Mokelumne River, "The total VA required release is calculated as the minimum JSA release plus the additional flows shown in Table G3a 7. If the March projected combined end of September storage in Pardee and Camanche is less than 350 TAF, it is assumed that no additional VA flows will be provided," [Comment:] Upon investigating the SacWAM modeling results, it appears that the low storage off-ramp does appear to be functioning as designed, however, in general the VA required releases do not appear to be modeled correctly. Mokelumne River VA additional flows, for example, when taken as the difference between existing and VA scenarios for the	It is not expected that implementation of the Mokelumne VA would produce additional volumes such as presented in the MOU. This is because the Mokelumne VA proposal is not to add water to existing flows but rather to add water to the existing flow requirements. Existing flows are frequently higher than the requirements so existing flows would frequently go towards meeting the VA flow requirements. However, Staff has met with EBMUD staff and has updated the Mokelumne VA modeling presented in Chapter 13, Revised Proposed Plan Amendments, of the partially recirculated draft Staff Report. For a description of the model updates please see Appendix H1a, Sacramento Water Allocation Model Methods, of the 2025 partially recirculated draft Staff Report.

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		summation of March – May plus September[1] and October in April-September JSA Dry year types result in a maximum value of 2.85 TAF, several magnitudes of order less than the 10 TAF in additional flows as is stipulated in Table G3a-7 and Mokelumne VA proposal. Other inconsistencies regarding Mokelumne VA flows exist for both April-September JSA Below Normal and Normal and Above year types. Quite simply, what is outlined in the text is inconsistent with what is modeled. Please see EBMUD's February 6, 2023, comment letter on the draft Scientific Basis Report Supplement for more detail on the Mokelumne River flow proposal. [1] See subsequent comment regarding Table G3a- 7 with respect to September VA flows.	
311	237	[ATT 1:] [Reference:] Appendix Table G3a-7. Mokelumne River VA Additional Flow by Month and JSA Water Year Type (TAF) [Comment:] In addition to the above comments with respect to the incorrectly modeled Mokelumne VA flows, the Mokelumne VA proposal does not stipulate for September VA flows, contrary to what is outlined in Table G3a-7. Please see EBMUD's February 6, 2023 comment letter on the draft Scientific Basis Report Supplement for more detail on the Mokelumne River flow proposal.	Please see the response to comment 311-236
311	238	[ATT 1:] [Reference:] Appendix Table G3a-112. Distribution of Baseline September Storage Elevation (TAF) and Absolute Difference by Scenario and Table G3a-114. Distribution of Baseline April Storage Elevation (TAF) and Absolute Difference by Scenario and Table G3a-144. Distribution of Baseline September Storage Elevation (TAF) and Absolute Difference by Scenario and Table G3a-146. Distribution of Baseline April Storage Elevation (TAF) and Absolute Difference by Scenario [Comment:] Tables G3a 112, G3a 114, G3a 144, and G3a 146 should be in units of elevation (ft AMSL) not storage (TAF). Additionally, it would be useful if these four tables as well as	Corrections made to Appendix G3a, Sacramento Water Allocation Model Methods and Results for the Proposed Voluntary Agreements, in response to these comments.

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		Tables G3a 111/G3a 113 and G3a 143/G3a 145 included the respective reservoir name in the title.	
311	239	[ATT 1:] [Reference:] Appendix G3a.3.5 Water Supply, “The WBAs and other demand site groups identified in Table G3a-165 show a change from baseline of less than one percent for all water years in all scenarios summarized and are not presented in this appendix.” [Comment:] Table G3a-165 seems to be in error. WBA's and Demand Site Groups with more than 1% maximum annual change, not those with less than 1% are listed in the table.	Table G3a-165 in Appendix G3a, Sacramento Water Allocation Model Methods and Results for the Proposed Voluntary Agreements, has been updated to correctly list the water budget areas that show less than 1 percent annual change from baseline.
311	240	[ATT 1:] [Reference:] Comment on changes from January 2023 SBR [Comment:] P.6-2 in Jan 2023 SBRS-“Mokelumne, Sacramento, and Yuba Rivers, this was over 100%, indicating that the VA scenario (as well as the baseline for Mokelumne and Yuba Rivers) provides enough spawning habitat to support the doubling goal.”	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.
311	241	[ATT 1:] [Reference:] Comment on changes from January 2023 SBR [Comment:] P. 6-5 Jan 23 SBRS For the Yuba and Mokelumne Rivers, median annual spawning habitat is the same for the baseline and VA scenarios because there were no spawning habitat commitments in the VAs. Under baseline conditions, the Yuba and Mokelumne Rivers exceed the habitat area needed to support 100% of the doubling goal for the spawner population target (Figure 6-1).	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.
311	242	[ATT 1:] [Reference:] SacWAM Model Documentation, Table 6-19, page 6-4 [Comment:] In the table, the last entry under “CVP North of Delta Water Service Contracts” lists CCWD which is described as: “Mokelumne above Mokelumne Hill (Middle Fork Mokelumne River)” It appears that Calaveras County Water District may have been confused with Contra Costa Water District (both use abbreviations CCWD). Hence, there is an apparent error in the Table, either with the definition or with the classification. As an	Table 6-19 in the SacWAM Documentation (available on the State Water Board’s Bay-Delta webpage) has been updated to correctly describe the surface diversions for U_CaCWD_NU and U_CaPUD_NU demand units. This does not affect SacWAM results, just labeling in SacWAM Documentation.

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		additional reference, there is an entry A_CaCWD_NU on page 6-7 which is also linked to Calaveras County Water District water diversions.	
311	243	[ATT 1:] [Reference:] SacWAM Model Documentation, Table 7-39: Sacramento River Minimum Net Delta Outflow D- 1641. page 7-121 [Comment:] The first column of the table is listed as “Mokelumne River Water-Year Type” although these are more likely intended to be Sacramento Valley 40-30-30 water year classification index (see page 184 and footnote 3 on page 185 of D- 1641).	The column header noted in the comment is erroneous and has been corrected as suggested in the SacWAM Documentation.
311	244	[ATT 2:] As part of its review of the State Water Board’s 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 East Side Tributaries, and Delta (draft Staff Report), East Bay Municipal Utility District (EBMUD) technical staff conducted a review of the Sacramento Water Allocation Model (SacWAM) files provided by the State Water Board in its analysis of hydrologic and related impacts, with particular attention to the modeling of EBMUD’s system and the Mokelumne River. Where appropriate, SacWAM results were compared with EBMUD’s own planning model, EBMUDSIM-RW. EBMUD finds that SacWAM is inaccurate and unreliable as a tool to evaluate impacts to EBMUD and the Mokelumne River. In addition, the draft Staff Report, SacWAM documentation, and model results showed a number of inconsistencies; the documentation is incomplete and inconsistent with model output in several key respects. The inaccuracy of the SacWAM model, coupled with the significant errors and inconsistencies in the documentation, render the analysis not credible, unreliable, and fatally flawed. As a result, the hydrologic and environmental analysis in the draft Staff Report that is based upon SacWAM modeling, as it pertains to the Mokelumne River, is fundamentally unsound and inaccurate, and therefore cannot be used either as the basis to assess potentially significant environmental effects on the Mokelumne River or the effectiveness of proposed mitigation measures under CEQA.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations.

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		Lastly, the use of a carryover storage target to mitigate temperature impacts is not appropriate and inadequate.	
311	245	[ATT 2:] EBMUDSIM-RW is an Accurate Tool for Modeling the Mokelumne River EBMUDSIM-RW is a Water Supply System model developed and maintained by EBMUD to accurately measure different potential operating regimes over a user defined range in system demands, changes in regulatory requirements (e.g. flow standards on the Mokelumne River), and to assess system effects of different water supply project components. The model incorporates over 95 years of Mokelumne hydrologic data, upstream reservoir operations, and downstream water rights, including the requirements of the dozens of agreements between various agencies on the river and the required flow standards under the FERC-approved 1998 Joint Settlement Agreement (JSA) and the State Water Board's D-1641. EBMUDSIM-RW is actively maintained to accurately reflect current EBMUD operations and policies and is deployed on the RiverWare (RW) software platform licensed through the Center for Advanced Decision Support for Water and Environmental Systems affiliated with the University of Colorado Boulder. The model incorporates Mokelumne River hydrology and includes an appropriate resolution for the Mokelumne System operations and local terminal reservoir area for accurate planning studies. EBMUDSIM-RW remains the best available model of the EBMUD water supply system extending to the Mokelumne River. EBMUDSIM-RW is accurate. EBMUDSIM-RW has been subjected to rigorous testing and verification analyses to verify its performance against recent historical operations. The EBMUDSIM-RW model is subject to constant updates and improvements with the most recent update completed earlier in 2023. The EBMUDSIM-RW model is the best available scientific tool to accurately assess the impacts from different proposed flow regimes and water demands on the Mokelumne River, including the Pardee and Camanche reservoir storage levels resulting from proposed flow regime alternatives for the lower	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations.

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		Mokelumne River. Given this high level of accuracy, EBMUDSIM has been regularly relied upon for environmental analysis on the Mokelumne River by federal and state regulatory agencies, including: - FERC: FERC relied upon EBMUDSIM modeling in its 1990's Mokelumne River proceeding No. 2916-004. - State Water Board: The Board relied upon EBMUDSIM modeling for the Mokelumne River components of its CEQA documentation on the 1995 Bay-Delta Water Quality Control Plan, where the Board acted as lead agency under CEQA. - State Water Board: Acting as a responsible agency under CEQA, the Board also relied upon the EBMUDSIM modeling underpinning the EIR on the 10478 Time Extension Project finalized in September 2014.	
311	246	[ATT 2:] SACWAM is Fatally Flawed as an Analytic Tool to Perform Environmental Analysis on the Mokelumne River SacWAM model performance representing Mokelumne operations continues to be problematic despite incremental improvements. EBMUD staff met and worked with State Water Board staff to evaluate SacWAM model representation and provide input after the model was initially released in 2016. While EBMUD staff met with State Water Board staff to provide input on numerous errors and problems with prior releases of SacWAM, and some problems with the prior version of the model were fixed, other early-identified problems with the model were not addressed and, unfortunately, State Water Board staff did not follow-up and continue to work collaboratively with EBMUD staff to complete the verification work on the SacWAM model. EBMUD's interest in working with State Board Staff on SacWAM development was to ensure the model was accurate as to the Mokelumne River and EBMUD's operations thereon, as an inaccurate model can result in poorly informed, erroneous decisions. In other words, regardless of policy differences that may exist between different agencies, it is imperative that a	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations.

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		model used for hydrologic and environmental analysis be accurate. Otherwise, decisions may be made that are not just incorrect, but may actually be contrary to the policy goals of the decision maker. Thus, model accuracy is key. With that thought in mind, EBMUD attempted to work collaboratively with State Water Board staff to review and provide input on drafts of the SacWAM model. Although, as noted above, EBMUD worked with the State Water Board early on regarding SacWAM to provide input on errors and problems with prior releases of the model, State Water Board staff did not follow up to continue to work with EBMUD staff collaboratively to complete the verification work on SacWAM. Now, with the release of the current 2023 SacWAM version, EBMUD continues to see problems with how SacWAM represents the Mokelumne system. The SacWAM model documentation and model study results were not released until the draft Staff Report was released in September 2023. EBMUD staff have performed an expedited review of the Existing Conditions scenario results and SacWAM model documentation and have found that errors and inaccuracies in the SacWAM model as well as gaps and discrepancies in the model documentation. The inaccuracies are summarized below, followed by a listing of the discrepancies in comparing the model results, the draft Staff Report, and the SACWAM manual in the next section.	
311	247	[ATT 2:] SacWAM Inaccuracies Inaccuracy No. 1: Inter-model comparisons show SacWAM Poorly Represents Historical Operations. EBMUD conducted an inter-model comparison between EBMUDSIM-RW and SacWAM of Existing Conditions scenarios representing current or existing regulatory criteria, agency agreements, and system operations within a fixed level-of-development framework. The comparison showed issues with SacWAM representation of Mokelumne operations. SacWAM relatively poor representation of existing conditions invalidates SacWAM's results for all of the scenarios analyzed in the Staff Report. The following examples illustrate how poorly SacWAM represents Mokelumne operations by reviewing operations upstream of Pardee down to releases from Camanche Reservoir, and modeling of Freeport:	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations. Additionally, please see Sections 3.9.3.14.1 and 8.21.2.15 in SacWAM Documentation (available on the State Water Board's Bay-Delta webpage). These sections defined Pacific Gas and Electric Company's storage operations on the upper North Fork Mokelumne River in SacWAM.

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		Baseline SacWAM PG&E operations differ from historical operations: Although Pardee Reservoir inflow compares well with the corresponding timeseries from EBMUDSIM-RW on an annual basis, there is considerable scatter when monthly flow data are plotted (see Figure 1 [ATT 2, Exhibit 1:]). This suggests that there may be a significant difference in SacWAM model representation of PG&E Project operations on the upper North Fork Mokelumne River when compared against the historical record, yet there is no documentation on this topic provided by the State Water Board and no evaluation included in the SacWAM validation study (Appendix A to the SacWAM Model documentation September 2023).	
311	248	[ATT 2, Exhibit 1:] Comparison of Monthly Flow Indicates Baseline SacWAM Operations of PG&E Reservoirs differs from the Historical Record	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.
311	249	[ATT 2:] Baseline SacWAM cold water pool protection is not functioning properly:: Inter- model comparisons between EBMUDSIM-RW and SacWAM for Pardee Reservoir end-of-month storage shows much less variation in storage in the SacWAM model and an inconsistent range in storage variation, which potentially shows that the Pardee elevation-storage relationship used in SacWAM may not be up-to-date. Furthermore, the lack of drawdown during droughts further suggests that that the JSA required joint operations for cold water pool protection is not functioning correctly in the SacWAM model. Figure 2 [ATT 2, Exhibit 2:] below shows October 1921 through September 2015 end-of-month simulated Pardee Storage RiverWare model with SacWAM model.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations.
311	250	[ATT 2, Exhibit 2: Graph titled Figure 2: Comparison of Monthly End-of-September Pardee Storage Indicates Pardee Elevation-Storage Relationship needs Updating and Cold Water Pool Protection isn't Functioning Properly]	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.
311	251	[ATT 2:] Baseline SacWAM Camanche Reservoir operations significantly differ from EBMUDSIM-RW operations: Camanche Reservoir end-of-month storage reflects much more variability	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations.

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		and also consistency in both models; however, there is still considerable variability between the two model output timeseries that suggest significant differences in either the water balance, the reservoir operations or both comparing SacWAM to EBMUDSIM-RW (see Figure 3 [ATT 2, Exhibit 3:]).	
311	252	[ATT 2: Exhibit 3: Graph titled Figure 3: Comparison of Monthly End-of-Month Camanche Storage Indicates Baseline SacWAM Operations significantly differs from EBMUDSIM-RW]	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.
311	253	[ATT 2:] Baseline SacWAM Mokelumne aqueduct operations are incorrect: Comparing SacWAM to EBMUDSIM-RW for monthly Mokelumne aqueduct diversions from Pardee shows the models are essentially uncorrelated, again pointing to considerable problems with SacWAM representation of Mokelumne system operations, particularly since the annual inflow to the system is similar between the models (See Figure 4 [ATT 2, Exhibit 4:]).	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations.
311	254	[ATT 2: Exhibit 4:] Comparison of Mokelumne Aqueduct Diversions Indicates SacWAM is Incorrectly Modeling the System Operations.	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.
311	255	[ATT 2:] Baseline SacWAM releases from Camanche Reservoir significantly differ from EBMUDSIM-RW: Comparing SacWAM Camanche Reservoir total releases to EBMUDSIM-RW shows much more variability than the Pardee Reservoir inflow timeseries (shown in Figure 1 [ATT 2, Exhibit 1:]) that, again, is indicative of poorly represented system operations. Note the increasing variability with flow in Figure 5 [ATT 2, Exhibit 5:], which suggests the interaction of the system constraints differs significantly between the two models.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations.
311	256	[ATT 2: Exhibit 5: Graph titled Figure 5: Comparison of Releases from Camanche Reservoir for SacWAM Significantly Differs from EBMUDSIM-RW]	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.
311	257	[ATT 2:] Freeport diversions of CVP supply is inconsistent with the 2020 UWMP: Although the addition of CVP diversions via Freeport was an improvement over previous SacWAM versions, the operational constraints applied in the 2023 SacWAM appear to be based on the outdated 2015 UWMP, and are therefore inconsistent with the current system representation as	SacWAM uses the 2015 Urban Water Management Plan (UWMP), which is consistent with the baseline assumptions for the analysis. As the commenter points out, assumptions for some more recent regulations were updated because they have large effects on the system. For more information on the model

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		documented in the 2020 UWMP. Given that State Water Board staff updated the SacWAM analysis to be consistent with recent changes in State and Federal joint Coordinated Operations Agreement and State Water Project incidental take permits, it would be reasonable to expect State Board staff to also update tributary assumptions where policies or operational constraints have been updated via the Urban Water Management Plan 2020. Finally, in the model's multi-year diversion sequences output, it appears that SacWAM assumes that no CVP diversions are made after the first year of diversion in the first month of the contract year diversion (i.e. in March). This assumption does not align with EBMUD's planning assumptions represented in the UWMP 2020. The reason for excluding March in multi-year sequences should be documented and justified.	assumptions, please see Section 6.2, SacWAM Model Assumptions, of the Staff Report.
311	258	[ATT 2:] Inaccuracy No. 2: Validation Study is Incomplete. In Appendix A1, Page A1-1, 2nd paragraph, last sentence, the draft Staff Report highlights the SacWAM peer review noting that the panel, "raised issues regarding the model in its state of development at the time...." The Staff report continues in response noting that a number of improvements were made and a model validation study was completed. The SacWAM model validation study is not included with the draft Staff Report but is attached to the SacWAM user's manual as Appendix A to that document. A review of the validation study shows that the 2023 SacWAM model continues to have accuracy issues. Furthermore, the performance evaluation in the study was limited to only a single location for flow and a single reservoir for the Mokelumne. No goodness-of-fit plots or statistical evaluations were presented, and no evaluation of PG&E North Fork Mokelumne operations were provided in the validation study. Hence the validation study as documented in Appendix A to the SacWAM manual is incomplete, inadequate, and does not clearly demonstrate acceptable SacWAM model performance.	In SacWAM validation, a representative number of non-project streamflows and non-project reservoirs storage are compared with historical data. Nash-Sutcliffe (N-S) efficiency and Bias (%) are used for the performance evaluation. Contrary to this commenter's assertions, SacWAM is an appropriate tool for evaluating and comparing the potential impacts of the various flow scenarios throughout the entire study area.
311	259	[ATT 2:] Inaccuracy No. 3: Forecast Projection Rule Incomplete. The logic description of ProjectedDryYearCarryoverStorage (Section 7.9.7.2.4) only contains two brief paragraphs (i.e. only a five sentence description). The first paragraph presents a brief history of the EBMUD's demand management policy and establishes the upper bound for distinguishing drought conditions. The second paragraph describes, in words, the	Please see the second paragraph in Section 7.9.7.2.4 of the SacWAM Documentation (available on the State Water Board's Bay-Delta webpage) that describes how state variable ProjectedDryYearCarryoverStorage is being implemented in SacWAM.

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		mathematical relationship for the calculation of the ProjectedDryYearCarryoverStorage parameter. A review of the equation suggests it may be incomplete and, therefore, may give inaccurate results. However, without additional discussion or justification in the SacWAM documentation concerning the terms used in the description, it is difficult EBMUD staff to understand.	
311	260	[ATT 2:] Inaccuracy No. 4: Incomplete JSA Implementation in SacWAM. Section 7.7.6 of the SacWAM manual (page 7-122) presents the JSA minimum flow requirements. There does not appear to be inclusion of the JSA flow footnotes into the SacWAM model. These JSA flow footnotes are important, as they at times mandate additional required flows to be released to the Mokelumne River by EBMUD over and above the base JSA flow schedules. The apparent omission of these river flows from SacWAM is a serious error, resulting in under-counting of existing flows. Furthermore, while Table 6-10 on page 6-41 lists the operational flow requirement in SacWAM that is described as “EBMUD Operational Objective” and is given a priority value of 33 described as “Pardee Dam release requirement to avoid thermal stratification in Camanche Reservoir,” our inspection of the Pardee Storage output (for example, see Figure A1-140 on page A1-291, or the Pardee Storage results from SacWAM in Figure 2 above) suggests that this rule may not be active or working correctly in the 2023 SacWAM.	SacWAM includes the JSA flow footnotes. Please see Section 7.7.6.1.1, Section 7.7.6.1.2 and Section 7.8.11 in the SacWAM Documentation (available on the State Water Board’s Bay-Delta webpage). The flow requirement below Pardee meant to increase releases during times of low Camanche storage to avoid thermal stratification is working in the model and is triggered in 8 years over the period of simulation in the existing scenario.
311	261	[ATT 2:] Inaccuracy No. 5: UWMP 2015 vs 2020 Model Assumptions. The 2023 SacWAM assumptions reflect that EBMUD’s now-outdated 2015 UWMP drought management policy and associated assumptions were used by the State Water Board in the 2023 SacWAM model, rather than the more recent 2020 UWMP. This is an error. Instead, assumptions for the baseline scenario reflecting existing conditions should have been updated to reflect EBMUD’s 2020 UWMP drought management policy and associated assumptions, just as the State Water Board did for SWP and CVP operations as described on page A1-4.	Please see the response to comment 311-257.
311	262	[ATT 2:] Inaccuracy No. 6: Existing Conditions Demands are not Explicit. It is not clear what the SacWAM demand assumptions are for certain existing conditions. Take for example the case of NSJWCD (A_60N_NA3) described in section 7.9.7.4.1 starting on page 7-32. The first paragraph describes the NSJWCD service area, then the second paragraph presents the full entitlement	As described in Chapter 4 of the SacWAM Documentation (available on the State Water Board’s Bay-Delta webpage), water demands on the valley floor are a result of the area being irrigated, crops grown, and the hydrology, which can vary from year to year.

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		amount of 20 TAF, a recent historical average of 9.5 TAF, and reports the “current demand... is only approximately 3 TAF.” On the next page, a third paragraph is provided that seems to suggest there is a monthly tracking variable to accumulate the full entitlement amount of 20 TAF. There is no clear indication of what is actually assumed in the Existing Condition scenario for this demand node; was 3 TAF, 9.5 TAF, 20 TAF, or something else used as the assumption for SacWAM? Inspection of the Existing Condition baseline from the SacWAM output shows that the assumed demand for NSJWCD (demand node A_60N_NA3) ranges from a minimum of 657 acre-feet to a maximum of 13,772 acre-feet with 71 years showing water diverted to NSJWCD out of 95 years simulated. There is no additional documentation that describes the existing condition demand or the basis for the variability in this particular diverter. This is one of several examples for the Mokelumne River.	Demand for water from the Mokelumne River for Northern San Joaquin Water Conservation District is described in the last paragraph of Section 7.9.7.4.1 of the SacWAM Documentation. Demand varies from year to year, and does not directly correspond with any of the three values listed in Section 7.9.7.4.1 and this comment. As described above, a holistic description of what goes into calculating demand is contained in Chapter 4 of the SacWAM Documentation. State Water Board staff have clarified Section 7.9.7.4.1 of the SacWAM Documentation to remove a reference to current demand.
311	263	[ATT 2:] Inaccuracy No. 7: Mokelumne Voluntary Agreement Flows are not Implemented Correctly. Mokelumne River Voluntary Agreement flow commitments are, “above existing minimum release requirements...” (see for example Appendix G1, Table 7, page 20). EBMUD considers release obligations and channel losses as part of the consideration of existing minimum release requirements. However, VA flow commitments modeled with SacWAM are added only in addition to JSA minimum environmental flow requirements and do not account for downstream contractual release obligations. As a result, the SacWAM model does not release the full VA flow commitment, as a portion of the VA minimum release requirement is double counted because a portion is implicitly used to meet downstream contractual obligations and losses. In other words, in SacWAM, without consideration for downstream diversions and losses, a portion of the VA flow commitment released at Camanche Dam is diverted downstream before reaching the Sacramento-San Joaquin Delta. This is not what the Mokelumne VA parties intended and is inconsistent with the defined Mokelumne VA flow commitment. The effect of adding the VA flow to only the JSA minimum flow requirements is that the VA flow commitment is double counted; i.e., it is diminished in the SacWAM VA results. In months the VA flow commitment is controlling, and irrigation demands are occurring in the lower	Please see the response to comment 311-236 regarding the SacWAM VA model scenario.

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		Mokelumne River, the change in Camanche release is expected to be modeled as much smaller in SacWAM than the actual Mokelumne VA flow commitment. To elaborate on this point, an example is provided below contrasting the results from EBMUDSIM-RW with SacWAM in such a scenario. Before proceeding with the modeling results, the default VA flow schedule for the EBMUDSIM-RW model for a JSA Dry Year Type is first presented below in Table 1 [ATT 2, Exhibit 6:]. The default schedule is shown in flow units of cfs where this represents the additional flow added on top of all required downstream releases expressed as a flow rate. The sum of the four months in the column labeled Volume clearly results in the Dry year total commitment of 10 TAF. Next, the focus is directed to the period of November 2012 through October 2013 as a Dry year example where the Mokelumne VA flow commitment is the only driver that explains the change in releases from Camanche releases in the months the VA is applied relative to the Noa Action Alternative (baseline). First, take Camanche minimum required releases timeseries for November 2012 through October 2013 for the No Action Alternative (i.e. baseline) and the Mokelumne Voluntary Agreement proposal (see Figure 6 [ATT 2, Exhibit 7:]). In March, the VA flow increases by 24cfs (minimum required release increases from 325cfs to 349cfs). The increase is exactly 57cfs from 282cfs to 339cfs in April and 43cfs from 380 to 423 in May. In October, the flow in the VA scenario increases by 41cfs from 250cfs to 291cfs. Note these respective monthly increases in the flow for the VA scenario correspond to the default schedule shown above in Table 1 [ATT 2, Exhibit 6:]. In this example considering Camanche releases from November 2012 through October 2013, the VA is the controlling constraint, hence exactly the same change in flow occurs when we plot the total Camanche Reservoir release for the Mokelumne VA Alternative and the No Action Alternative (baseline) (see Figure	

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		7 [ATT 2, Exhibit 8:] below). Before continuing with the example, note that SacWAM assumes a different default schedule (for example, see Appendix A to Appendix B2, Table A-7 on page A-7). For a dry year where one would expect the VA to be controlling releases as shown above, the SacWAM default schedule is arbitrary; rather, the difference in flow is the key metric where we expect the difference over the months the VA flow is applied to total up to the Dry Year VA flow commitment of 10 TAF as was shown above for the EBMUDSIM-RW model (see Figure 6 [ATT 2, Exhibit 7:] and Figure 7 [ATT 2, Exhibit 8:]). The Camanche Reservoir outflow timeseries for the VA Baseline and VA model scenarios are extracted from SacWAM for the twelve-month period-of-interest. The two timeseries data are plotted in Figure 8 [ATT 2, Exhibit 9:] below. The only month that shows a change (i.e. increase) in releases as a result of the VA proposal is March; Camanche Reservoir outflow in all other months that additional VA releases are expected (i.e. April, May, and October, 2013) show no change in reservoir outflow. Since the Mokelumne VA releases are apparently added to only the JSA minimum flow requirement in SacWAM (see description in the second paragraph of Section 4.8 on page 4-13 in Appendix G2) and not to the total minimum release requirement, the full VA flow commitment is not modeled by SacWAM. As stated above, this is an error. Therefore, under the SacWAM results, the VA scenario is erroneously depicted as falling short of the full Dry Year Type Mokelumne VA flow commitment when the VA flow commitments are expected to be the controlling minimum release requirement at Camanche Dam. In fact, no change in reservoir releases is apparent during the months where significant irrigation diversions are occurring (i.e. April, May). Clearly this is an error in the implementation of the Mokelumne VA proposal in the 2023 SacWAM version that is inconsistent with the Mokelumne VA flow asset commitment. Based on this review, significant model issues persist with the SacWAM Model. The model validation process has not been completed. The operations associated with the existing	

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		conditions in the 2023 SacWAM are, therefore, flawed and unreliable. Clearly the 2023 SacWAM is not ready for conducting environmental analysis including, comparative alternatives analysis.	
311	264	[ATT 2, Exhibit 6: Table of JSA Dry Year Mokelumne VA Default Flow Commitment as Modeled with East Bay Municipal Utility District SIM-RiverWare.]	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.
311	265	[ATT 2, Exhibit 7: Graph titled Figure 6: EBMUDSIM-RiverWare, 2020 Level-of-Development Existing Conditions, Required Camanche Release Output Timeseries for Mokelumne Voluntary Agreement with the No Action Alternative Baseline]	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.
311	266	[ATT 2, Exhibit 8: Graph titled Figure 7: EBMUDSIM-RiverWare, 2020 Level-of-Development Existing Conditions, Total Camanche Release Output Timeseries for Mokelumne Voluntary Agreement with No Action Alternative Baseline]	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.
311	267	[ATT 2, Exhibit 9: Graph titled Figure 8: SacWAM Model Output for VA Baseline and VA Model Scenarios, November 2012 through October 2013, Camanche Reservoir Outflow Timeseries]	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.
311	268	[ATT 2:] Draft Staff Report, 2023 SacWAM Documentation and Digital Model Files Presents Inconsistent, Incomplete, and sometimes Contradictory Information The Draft Staff Report, the Sacramento Water Allocation Model, Model Version 2023.06.12 Documentation (abbreviated henceforth as SacWAM documentation), and the digital modeling files provided by State Water Board staff [Footnote 1: Available online: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/sacwam/ Last accessed November 3, 2023.] contain information that is incomplete, inconsistent, and sometimes contradictory in nature. Specific examples of such documentation / model issues are enumerated below. Documentation/Model Issue #1: On page A1-18 Table A1-12 Maximum Cutback to EBMUD and Lower Mokelumne Diverters by Scenario. The prior paragraph on page A1-18 of Appendix A1 explains the relationship between the cutbacks as:	Please see response to comment 311-209 regarding Mokelumne River cutback information in Appendix A1, Sacramento Water Allocation Model Methods and Results. Please see the response to comment 311-257 regarding the model assumptions related to Freeport diversion and the Urban Water Management Plan. Please see the response to comment 311-215 regarding updates to Table A1-7.

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		“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.” Note that the data in Table A1-12 for the 65 and 75 scenarios are inconsistent with this description; hence, the description of the rule is incomplete for the full set of scenarios modeled. Furthermore, the rules in Table A1-12 are incomplete because the functional relationship between the projected end-of-September storage and the rationing levels applied at each alternative are omitted. The paragraph following the table at the top of page A1-18 cross-references the SacWAM manual for more detailed information as follows, “the resulting carryover storage in Pardee and Camanche Reservoirs and reductions in diversion are calculated by the allocation logic that is described in detail in the SacWAM documentation (^SacWAM 2023).” However, the only relevant portion of the SacWAM manual that appears to correspond to this specific operational rule is in Chapter 7, specifically Section 7.9.7.2.2, which only has two short paragraphs (five sentences) excerpted below: “The state variable EBMUD Percent Cutback is the percent deficiency imposed on deliveries to EBMUD. If the ProjectedDryYearCarryoverStorage is greater than 500 TAF, there is no deficiency (EBMUD Percent Cutback = 0). Between 450 TAF and 500 TAF carryover storage, deficiencies increase linearly from zero to 15 percent. Between 300 TAF and 450 TAF carryover storage, deficiencies increase linearly from 15 to 25 percent. A larger deficiency is simulated in SacWAM, as the dry-year supply available as part of the Freeport Regional Water Project has currently not been implemented. Deliveries through the transmission link connecting the Mokelumne Aqueduct to demand unit U_EBMUD are constrained using WEAP’s Maximum Flow Percent of Demand property, which is set equal to (100- EBMUD Percent Cutback).” [bold emphasis added].	

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		Setting aside the fact that the cutback-storage relationship is not up-to-date (see f. Freeport diversions of CVP supply is inconsistent with the 2020 UWMP above), the modeling documentation indicates a maximum cutback of 25% is applied in the Existing Condition baseline in lieu of taking delivery of CVP supply via the Freeport Regional Water Project. The maximum rationing level presents contradictory information relative to the draft Staff Report Table A1-12 data referred to above. Furthermore, inspection of the model results for the Existing Condition and Unimpaired Flow scenarios shows the following: - The CVP diversions via the Freeport regional water project are active and diverting to the Mokelumne aqueducts to meet EBMUD demand (U_EBMUD_NU) even though section 7.9.7.2.2 of the SacWAM model explicitly states diversions via Freeport to EBMUD was not modeled. - CVP diversions via the Freeport Regional Project are not consistent with the CVP North-of-Delta minimum potential CVP allocation in Table A1-7 (page A1-14). - Apparent cutbacks applied to EBMUD demand (U_EBMUD_NU) exceed those reported in Table A1-12. For example, the maximum cutback for the 55%-of- unimpaired flow scenario is calculated as 88% with a maximum cutback to downstream senior diverter WID at 59% where Table A1-12 reports that the respective maximum cutbacks for this scenario are 80% and 55%, respectively.	
311	269	[ATT 2:] Documentation/Model Issue #2: There is conflicting EBMUD demand information presented in the draft Staff Report. Page 2-136, 2nd paragraph reports Mokelumne aqueduct diversions average 211TAF/yr which is cross-referenced to SacWAM estimates. The end of this paragraph cites to (EBMUD 2015), which is EBMUD's UWMP 2015 (see references on page 2-150) that provides a different estimate of planning level of	The Mokelumne Aqueduct diversion amount in Attachment A1b1, Compiling Historical Sacramento/Delta Water Supplies to San Joaquin Valley, Central Coast, Southern California, and San Francisco Bay Area Regions, of Appendix A1b, Methodology for Estimating Existing Water Supply from Historical Water Deliveries Data, has been corrected from 188 TAF to 188 MGD (million gallons per day). The Mokelumne Aqueduct diversions

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		demand. In Appendix A1 Attachment A1b1 page A1b1-6 Item 7 reports that, "average annual supplies = 188 TAF...", which is sourced to, "EBMUD records received via an email." Finally, a review of the SacWAM model output shows that the assumed annual diversions to EBMUD (demand node U_BEMUD_NU) is not consistent with either of these two figures cited above. Finally, EBMUD could find no information in Appendix A1 attachment A1b1 or elsewhere in the draft Staff Report that explains procedures used to detrend recent historical consumptive use in order to convert to planning demand for use in a fixed level-of-development planning model context like is used in SacWAM.	value of 211 TAF/yr (from Staff Report Chapter 2, Hydrology and Water Supply, as identified by this commenter) is consistent with the 188 MGD value now listed in Attachment A1b1, albeit using different units, as 188 MGD converted to TAF/yr equals approximately 211 TAF/yr). It is unclear what detrending methods the comment refers to.
311	270	[ATT 2:] Documentation/Model Issue #3: The SacWAM manual does not document how water allocation priority (see listing in Table 7-62 on page 7-74) are changed or modified with the unimpaired flow or voluntary agreement scenarios. The extent of the Mokelumne River Voluntary Agreement proposal is documented in the SacWAM documentation on page 9-15 section 9.20.7 Mokelumne VA, which is a one sentence description as follows, "Mokelumne VA switch to activate Voluntary Agreement requirements in the lower Mokelumne River watershed." Essentially, this is a one sentence description of an activation switch used in the SacWAM model to activate or deactivate the Mokelumne VA flow commitment. There is no further provision of the rules, logic, or data tables associated with the Mokelumne River VA that would be necessary to accurately document how the Mokelumne VA is modeled with SacWAM. Clearly the SacWAM model documentation is insufficient and incomplete.	The SacWAM Documentation describes SacWAM itself and the existing conditions assumptions. Changes to SacWAM and assumptions for each scenario is found in Appendices A1, Sacramento Water Allocation Model Methods and Results, and G3a, Sacramento Water Allocation Model Methods and Results for the Proposed Voluntary Agreements, of the draft Staff Report and Appendix H1a6, Sensitivity Analysis for 2025 Record of Decision and Incidental Take Permit Amendments, of the final Staff Report.
311	271	[ATT 2:] Documentation/Model Issue #4: In Chapter 2, page 2-136, 2nd paragraph, 2nd to last sentence, it states, "EBMUD also receives water from the Sacramento River during drier years and has a contract for CVP water that can be delivered through the Folsom South Canal from the American River." [bold emphasis added]. This description is in error. EBMUD diverts its CVP contract	Chapter 2, Hydrology and Water Supply, of the Staff Report has been revised to clarify that East Bay Municipal Utility District receives water from the Sacramento River via the Freeport Regional Water Project intake and not the Folsom South Canal.

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		supply from the Sacramento River at the Freeport Regional Water Project, not at the Folsom South Canal diversion point from the American River. The CVP water is then pumped east from Freeport to the Folsom South Canal and then conveyed southward to the Mokelumne Aqueducts and conveyed to the San Francisco East Bay. This is accurately described elsewhere in the document. (See, for example, the description in Section 8.16 of the Freeport Regional Water Project, particularly section 8.16.2 on page 8-36 of SacWAM manual, which describes a rule that prevents exactly what is erroneously described on page 2-136 of the draft Staff Report.)	
311	272	[ATT 2:] Documentation/Model Issue #5: The data presented in chapter 2 of the staff report on page 2014 Table 2.1-1 page 2-16 and Appendix B page 2-16 Table 2.1-1 purportedly present the same information for the Mokelumne yet the gains and losses are inconsistent and the total Watershed storage does not seem to be accurate. Furthermore, yet a third annual Mokelumne channel loss estimate is reported in in the SacWAM documentation on page 6-61, first paragraph, 4th sentence in the paragraph.	Please see response to comment 311-99 regarding stream gain/loss data.
311	273	[ATT 2:] Documentation/Model Issue #6: The SacWAM assumptions used to model the Mokelumne VA flow commitment appears to be inconsistent with the Mokelumne VA flow commitment. In some parts of the Draft Staff Report, the Mokelumne VA flow commitment volume by Mokelumne JSA Year Type is accurately represented. For example, in Appendix G1 Table 7 on page 20. On page 31, the default Mokelumne VA flow breakdown by month is accurately presented in Table 13 and the flexibility ranges in Table 14 (the flexibility ranges are also presented in Table 2 through Table 5 and are consistent with Table 14). Take note that the months included for VA flow commitments in Tables 13 and 14 are March, April, May, and October, but September is not included. In Appendix G2 of the Draft Staff Report, on page 4-3 (pdf page 76), Table 4-1 “2022 Voluntary Agreements Flow Assets As Modeled” accurately represents the months where the VA would be applied (see column “Season”) as “Mar-May, Oct” where, again, September is not included in this period. However, in other parts of the Draft Staff Report, the month of September is included in the distribution of Mokelumne VA flow	Please see the response to comment 311-236 regarding the SacWAM VA model scenario.

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		assets, for example on page 4-13 of Appendix G2, just ten pages after the citation immediately above, Table 4-8 Mokelumne River VA Additional Flow by Month and JSA Water Year Type (TAF) clearly shows that the model assumptions applied in SacWAM are inconsistent with the default schedule and, furthermore, a portion of flow is allocated to the month of September which is clearly inconsistent with Appendix G2 Table 4-1 as well as Tables 13 and 14 in Appendix G1 (on page 31). There is no documentation included in the draft Staff Report that explains why the modeled Mokelumne VA differs from the default schedule (presented in Table 13 in Appendix G1) nor why VA flow commitments were extended to include the month of September. Note also that Appendix A to Appendix G2 also presents information regarding the VA scenario modeling with the SacWAM model. On page A-7, Table A-7 Mokelumne River VA Additional Flow by Month and JSA Water Year Type (TAF) again shows the modeled Mokelumne VA differs from the default schedule (presented in Table 13 in Appendix B1) and is extended to include September without explanation. The SacWAM model documentation provides no additional information regarding the Mokelumne VA and only describes a variable used to activate or deactivate the VA flow commitment as part of the simulation (see SacWAM manual (September 2023), page 9-15 Section 9.20.7 Mokelumne VA).	
311	274	[ATT 2:] Documentation/Model Issue #7: The 2023 SacWAM documentation appears to show that the SacWAM correctly distributes the total Riparian and Senior Appropriator diversions above and below Woodbridge Dam. However, the SacWAM model results are inconsistent with the model documentation and model schematic. The details regarding this inconsistency are provided as follows. The SacWAM schematic clearly shows a portion of the Riparian and Senior Appropriator diversion class is assigned to the reach from Woodbridge Dam to the confluence with the Cosumnes River. This assumption is consistent with EBMUDSIM-RW that assumes 30% of the lower Mokelumne River total diversion to Riparian and Senior Appropriators occurs in this reach along with an assumed channel loss of 6.9cfs.	In the SacWAM Documentation (available on the State Water Board's Bay-Delta webpage), Section 3.9.3.14.3 states that "Minor diversions to individual water right holders (A_60N_NA5) are located at two points, upstream and downstream from the Woodbridge Diversion Dam." Table 4-2 defines A_60N_NA5 as Riparian diverters, non-district. Table 6-19 lists Mokelumne River below Woodbridge as the surface water source for demand unit A_60N_NA5. The SacWAM schematic and model are consistent with SacWAM Documentation. There is great uncertainty as to the volumes of stream-groundwater interaction throughout the Sacramento Valley floor. The hydrogeology on the Lower Mokelumne below Woodbridge is particularly challenging to study because there is no streamflow gage below Woodbridge. SacWAM does not include

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		From a review of the SacWAM model documentation, the agricultural demands on the lower Mokelumne River are represented by three demands (see SacWAM manual page 3-23, Section 3.9.3.14.3, 2nd paragraph). The designated demand node A_60N_NA3 represents diversions to the North San Joaquin Water Conservation District or NSJWCD. Demand node A_60N_NA4 as well as demand components U_60N_NU1, and U_60S_NU1 are all diversions at Woodbridge Dam to Woodbridge irrigation District as well as a portion WID has transferred (by agreement) to the cities of Lodi and Stockton. Finally, demand node A_60N_NA5 is defined as, “Minor diversion to individual water right holders... located at two points, upstream and downstream from the Woodbridge Diversion Dam.” In EBMUDSIM-RW, this diversion user class is termed as Riparian and Senior Appropriator rights and abbreviated as RSA. The schematic below shows diversions links extending from the reach above Woodbridge and below Woodbridge to demand node A_60N_NA5 consistent with the description in the SacWAM documentation quoted above. The RSA diversions are similarly broken up into three components consistent with the representation in SacWAM depicted below in Figure 9 where 65% of the RSA demand is assumed to apply between Camanche dam and Lake Lodi, 5% of the RSA demand is assumed to occur in the Lake Lodi reach, and the remaining 30% is assumed to be diverted in the reach below Woodbridge to the confluence with the Cosumnes River. From Figure 9 [ATT 2, Exhibit 10], it is apparent that there is no channel loss arc applied by SacWAM to the reach below Woodbridge Dam to the confluence with the Cosumnes. There are three (orange) arcs that initiate from various locations on the Mokelumne River upstream and terminate with the node labeled Cosumnes GW, yet no orange arc that extends from the reach below WID to the Cosumnes GW node. Presumably these are the arcs that route the channel loss component to the groundwater basin. Though it may be difficult to read from the screen capture of the schematic, the three arcs are labeled as, “Ops_SeepageAboveHWy99”, “Ops_SeepageblwHwy99”, and “Woodbridge_SeepageLoss.” Furthermore, there is no	any stream-groundwater interaction below Woodbridge due to the lack of published data to inform the stream-groundwater interactions on this reach.

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		documentation included in the draft Staff Report or SacWAM documentation that justifies the lack of any channel loss assumption applied in the lower reach below Woodbridge Dam. Furthermore, one can see that the agricultural demand node A_60N_NA5 has several (green) arcs that begin at various reaches of the lower Mokelumne River. One arc begins at RM 50 where diversions for NSJWCD represented as demand node A_60N_NA3 is diverted (green arc labeled "1"). Another supply link at or near the CCT railroad crossing of the Mokelumne River at the upstream end of Lodi Lake (arc labeled 1), and a third that is below Woodbridge (arc labeled "2"). Hence, the schematic appears to be consistent with the description in the manual where the total RSA diversion is made up of diversions links from three distinct reaches along the lower Mokelumne River and appears consistent with the EBMUDSIM-RW assumptions for RSA diversions as described above.	
311	275	[ATT 2, Exhibit 10: Graphic titled Figure 9: Screen Capture of SacWAM schematic in WEAP Model, Zoom View to Lower Mokelumne River below Camanche]	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.
311	276	[ATT 2:] Finally, extracting SacWAM model output representing the flow below Woodbridge Dam [Footnote 2: Extracted as "Streamflow (below node or reach listed) (Thousand Acre-Feet) River: Mokelumne River; Mokelumne River Nodes and Reaches, Below Mokelumne bw Woodbridge, All Scenarios"] and the results downstream for the Mokelumne flow to the Delta immediately upstream from the confluence with the Cosumnes [Footnote 3: Extracted as "Streamflow (below node or reach listed) (Thousand Acre Feet) River: River: Mokelumne River; Mokelumne River Nodes and Reaches: Below Mokelumne bw Woodbridge, All Scenarios"] for a single modeled scenario shows these two timeseries outputs are exactly equivalent (equal) for all months simulated. To demonstrate, results for two different model scenarios are extracted and plotted, the Existing Conditions and 75%UF (75) model scenarios. Figure 10(a) below shows a calibration plot of the flow below Woodbridge (abscissa) with the Mokelumne tributary flow to the Delta upstream of the confluence with the Cosumnes for the Existing Conditions model scenario on the ordinate scale. Clearly the data	In SacWAM Documentation (available on the State Water Board's Bay-Delta webpage), Section 3.9.3.14.3 states that "Minor diversions to individual water right holders (A_60N_NA5) are located at two points, upstream and downstream from the Woodbridge Diversion Dam." Table 4-2 defines A_60N_NA5 as Riparian diverters, non-district. Table 6-19 lists Mokelumne River below Woodbridge as the surface water source for demand unit A_60N_NA5. SacWAM schematic and model are consistent with SacWAM Documentation. Streamflows between the two model nodes listed by this commenter are equal because they are right next to each other. To calculate the difference in flow below Woodbridge Diversion Dam and the confluence with the Cosumnes River, Reaches: 37 \ Mokelumne River RM 035 and 43 \ SWRCB Mokelumne River should be used. Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding

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		shows a perfect correlation with an $R^2 = 1$. Figure 10(b) shows the same plot but for the 75%UF model scenario; again, clearly the two timeseries are identical yielding a perfect correlation. Hence, with equivalent flow timeseries represented at these two locations, SacWAM clearly applies no diversion or loss to the reach between Woodbridge Dam and the Confluence with the Cosumnes which is clearly in error and appears to be inconsistent with the system schematic shown above in Figure 9 [ATT 2, Exhibit 10]. In contrast, the No Action Alternative (baseline) for Existing Conditions (2020 level-of- development) from the EBMUSIM-RiverWare model shows a distinct bias (i.e. non-zero intercept) where the flow below Woodbridge is strictly greater than (not equal to) the Mokelumne tributary flow to the Delta for all months. As described above, the reach from Woodbridge Dam to the Confluence with the Cosumnes in the EBMUDSIM-RW model assumes 30% of the RSA diversions in this reach as well as a channel loss term which diminishes the flow below Woodbridge before reaching the confluence with the Cosumnes River. Setting aside the complications with tidal flow in this reach, the assumption of losses and diversions in this reach is more realistic than SacWAM's approach of assuming the flows are equivalent, which could lead to an overestimate of the Mokelumne River flow to the Delta. In closing, the SacWAM model output is inconsistent with the model schematic and the portion of RSA diversions expected below WID does not appear to be working correctly.	simulated Mokelumne River operations and responses to comments about the comparison with EBMUDSIM.
311	277	[ATT 2, Exhibit 11: Two graphs titled Figure 10: Calibration Plots of Simulated Monthly Flow Below Woodbridge Dam with Simulated Monthly Mokelumne Flow to the Delta for (a) Existing Conditions SacWAM Model Scenario and (b) the 75% of Unimpaired Flow SacWAM Model 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.
311	278	[ATT 2:] Summary of Identified Documentation / Model Issues As detailed above, the September 2023 SacWAM model version is fatally flawed as a tool to assess potential effects of alternative flow regimes for the Mokelumne River. Furthermore, the model results show conflicting results between the draft Staff Report and the SacWAM documentation, and both were found to be	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding simulated Mokelumne River operations.

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		incomplete and omit key justifications for deviations in standard planning assumptions. As a result, the hydrologic and environmental analysis in the draft Staff Report that is based upon SacWAM modeling, as it pertains to the Mokelumne River, is fundamentally unsound and inaccurate, and therefore cannot be used either as the basis to assess potentially significant environmental effects on the river or the effectiveness of proposed mitigation measures under CEQA.	
311	279	[ATT 2:] A Carryover Storage Target is Not Appropriate or Adequate to Ensure Temperature Management Appendix A1, Section A1.3 of the draft Staff Report states, “where previous studies have identified carryover storage targets to maintain downstream temperatures for rim reservoirs such as Shasta Reservoir and Camanche Reservoir, these carryover targets were assumed.” This approach to adjust the narrative alternative results in such a way so as to limit negative environmental effects is impractical and unrealistic because it is predicated on results from the baseline scenario. In other words, the target is derived from the baseline with the proposed alternatives “adjusting” allocations to meet this target purportedly to minimize environmental effects. However, in real-time operations such criteria would not be available or known. Therefore, the operations reflected by the narrative alternatives are unrealistic and impractical. Clearly, cold water pool protection is a conflicting objective with the unimpaired flow narrative objective, yet the draft Staff Report provides no adequate quantitative analysis of how these competing objectives are to be traded off. Authors cite to “previous studies” but do not provide a citation to such studies. The citation provided (later) in Table A1-3 Assumed Reservoir Carryover Storage Targets to Maintain Downstream Cold Water Habitat is “Communications with EBMUD Staff” but the date and time of that communication is not provided, and there are no further references or citations provided in Section A1.13 References. Note that this is in contrast with how the draft Staff Report treats Shasta Reservoir, where the carryover storage target is referenced to the 2009	Please see response to comment 311-207.

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		NMFS Biological Opinion. Contrary to the inference that EBMUD staff recommended such an approach, on several occasions EBMUD staff have cautioned against the use of a carryover storage target as a means of assuming adequate downstream temperatures are met and have provided numerous examples and evidence to support this position. Starting in 2017 through 2021 over numerous meetings with State Water Board staff, EBMUD staff provided extensive information on existing Mokelumne cold water pool management operations required by the Joint Settlement Agreement. EBMUD staff provided detailed explanations of the water quality monitoring that supports temperature management operations including modeling analyses, analysis of detailed monitoring and historical operations data as well as an explanation of existing infrastructure constraints that affect cold water pool management. EBMUD staff provided analysis to show the extent to which cold water resources are a limiting factor under Existing Conditions. EBMUD staff presented several analyses of potential effects of various unimpaired flow alternatives on JSA year type designations that would skew to drier year types that was contrasted against effects of the Mokelumne VA proposal. Mokelumne System infrastructure limitations as well as the volume and timing of the releases under unimpaired flow scenarios clearly demonstrate that carryover storage targets would not be an effective strategy to limit temperature impacts to the fishery but would instead result in reservoirs with depleted cold-water pools and, therefore, elevated release temperatures. If additional required releases associated with the unimpaired flow alternatives result in a greater volume than the amount of cold-water runoff to Pardee Reservoir, clearly a minimum carryover storage would be ineffective to prevent significant increases in temperature in fall during fall run chinook spawning. In meetings with State Water Board staff, EBMUD provided analysis of historical monitoring data coupled with water temperature modeling to show how increases in the required releases from Camanche Reservoir would deplete cold water resources. In several of these meetings, EBMUD staff explained how limiting Mokelumne aqueduct diversions as was	

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		done in the draft Staff Report would result in a significant additional volume of warmer water in the Mokelumne Reservoir system as aqueduct diversions occur higher in the water column at Pardee Reservoir; thereby removing warmer water from the system while preserving cooler water at lower reservoir elevations. Finally, the end-of-September Camanche Reservoir carryover storage target recommended by State Water Board staff would not only be ineffective in assuring cold water releases in fall for reasons alluded to above, the requirement would be redundant with existing regulatory requirements established by the JSA (section F.5 on page 8 of the JSA). The end of September target would also be less effective because it is applied earlier in the spawning season (end-of- September versus end-of-October in the case of the JSA) and is an indirect measure of cold water (i.e., total reservoir storage) rather than a direct and explicit definition of the hypolimnion or cold-water pool (see Lower Mokelumne River Project Water Quality and Resource Management Program page 4).	
311	280	[ATT 2:] EBMUD staff in conjunction with State Water Board staff organized a temperature modeling workshop in support of the WQCP Update held at the EPA building in Sacramento on January 24, 2020. State Water Board staff specifically asked presenters not to present any content on unimpaired flow modeling but were instead asked to focus on modeling tools and capability on our respective tributaries. Representatives from the Mokelumne, Yuba, Sacramento, and American rivers provided a showcase at the workshop regarding temperature modeling and how modeling tools support temperature management in our respective tributaries as requested by State Water Board staff. A copy of EBMUD's presentation from the January 24, 2020 workshop is included as Exhibit E to EBMUD's comment letter. As part of the workshop EBMUD staff provided: - an overview of the models used to support temperature management (EBMUD presentation slides 8, 9, 11, 12, 14); - an indication of model performance in representing Camanche	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. While the State Water Board is aware that EBMUD has developed its own temperature model and State Water Board staff has requested the model, that model has not been provided by EBMUD to the State Water Board for use in the Staff Report. Nor has EBMUD's temperature model been configured to utilize the State Water Board's SacWAM modeling (which would be a significant effort) that is the basis for all of the modeling analyses in the Staff Report. While EBMUD would not initially be subject to the regulatory pathway and associated inflow and cold water habitat requirements due to its participation in the VA pathway, if and when EBMUD is subject to the regulatory pathway it may utilize its temperature model to inform development of a long-term temperature management strategy, annual temperature management plans, and to inform adaptive implementation of the Mokelumne River inflow requirements, including through a

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		release temperature comparing calibrated model results to measurements (slide 15); - an overview of the monitoring program used to support temperature management (slide 19, 20, and 21); - a conceptual diagram showing how planning models could be used in conjunction with planning models like SacWAM or Calsim3 in a programmatic framework for alternatives impacts analysis and assessment. EBMUD Staff and representatives from other tributaries offered to work with State Water Board staff and make available the respective temperature modeling experts to work with State Water Board staff to perform quantitative modeling in support of the WQCP Update. State Water Board staff did not formally respond to this offer.	proposed local cooperative solution, provided that the model is made available to the State Water Board and includes needed analyses.
311	281	[ATT 3:] Customer Welfare Losses Under the Baseline Management Scenario, by 2050, demand will exceed supply [Footnote 1: We describe ‘demand’ as ‘exceeding supply’ whenever the forecast demand, based on EBMUD’s 2050 Demand Study is more than 3% greater than the supply predicted in EBMUD’s propriety hydrological simulations.] in one out of eight years, causing demand rationing of 9% on average in those years. We estimate that this level of rationing leads to welfare losses among customers of \$3.3 Million on average for each such year. [Footnote 2: All quoted prices are in 2020 dollars here, and throughout the text.] Under the 45% Unimpaired Flow Scenario, by 2050, demand exceeds supply in one out of three years, causing 14% demand rationing on average in those years. We estimate that this rationing leads to welfare losses among customers of \$43.7 Million on average for each such year. In the worst drought year, demand is rationed by 49% in this scenario, leading to welfare losses of over \$966 Million. Under the 55% Unimpaired Flow Scenario, by 2050, demand exceeds supply in one out of two years, causing 25% demand	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD’s comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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		rationing on average in those years. We estimate that this rationing leads to welfare losses among customers of \$181 Million on average for each such year. In the worst drought year, demand is rationed by over 88% in this scenario, leading to welfare losses of over \$1,875 Million.	
311	282	[ATT 3:] Job Losses & Business Sales Losses The Brattle Group used elasticity estimates from a study based on a survey of area employers and employment projections from the Plan Bay Area 2040 plan to estimate the number of lost jobs at local businesses in EBMUD's Alameda County and Contra Costa County service area resulting from water service interruptions. We also used the same elasticity study, along with data from the 2017 Economic Census, to estimate the value of lost sales at local businesses in Alameda and Contra Costa Counties resulting from water service interruptions. Under the baseline management scenario, by 2050, we estimate that the projected 9% average demand rationing in years with at least 3% supply shortfall will result in an average of 3,084 jobs lost, and \$800 Million in lost business sales for each such year. Under the 45% unimpaired flow scenario, whereby 2050 demand will exceed supply in one out of three years, we estimate that demand rationing of 14% will lead to an average of 13,176 jobs lost, and \$2.55 Billion in lost business sales for each such year. In the worst drought year, we estimate that 49% demand rationing will lead to a loss of 161,407 jobs and \$27.53 Billion in lost business sales. Under the 55% unimpaired flow scenario, whereby 2050 demand will exceed supply in one out of two years, we estimate that demand rationing of 25% will lead to an average of 42,616 jobs lost and \$7.53 Billion in lost business sales for each such year. In the worst drought year, we estimate that 88% demand rationing will lead to a loss of 333,139 jobs and \$56.05 Billion in lost business sales.	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	283	[ATT 3:] EBMUD Revenue Losses	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-

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		The Brattle Group used published water rates to estimate the revenue losses to EBMUD associated with shortages based on the scenarios described above. Under the baseline management scenario, by 2050, we find that demand exceeds supply in one out of eight years, resulting in average rationing of 9%, which will reduce EBMUD's revenue from customers by an average of \$6.8 Million in those years. Under the 45% unimpaired flow scenario, by 2050, we find that demand exceeds supply in one out of three years, resulting in average rationing of 14%, which will reduce EBMUD's revenue from customers by \$29.8 Million in each of those years. In the worst drought year, 49% rationing would cut their revenue by \$264.3 Million. Under the 55% unimpaired flow scenario, by 2050, we find that demand exceeds supply in one out of two years, resulting in average rationing of 25%, which will reduce EBMUD's revenue from customers by an average of \$69.6 Million in each of those years. In the worst drought year, 88% rationing would cut their revenue by \$486.9 Million. Our analysis shows that implementing 45% or 55% unimpaired flow releases would significantly decrease the historic reliability of EBMUD's water supplies, result in more frequent and severe water supply shortages, and require significantly higher demand rationing EBMUD customers. EBMUD found it infeasible to model 65% unimpaired flow because unimpaired flow at that high level depleted reservoir storage so severely that their reservoir model effectively ceased to function. As a result, this report looks at the economic impacts resulting from 45% and 55% unimpaired flow requirements being imposed upon the Mokelumne River. These impacts are significant and would be even more so under a 65% unimpaired flow requirement. Table 1 [ATT 3, Exhibit 1] below summarizes the frequency of water shortages and the economic impact of shortages, both for a typical water shortage and in the worst historical drought year.	party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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311	284	[ATT 3, Exhibit 1: Table titled Table 1: Summary of Expected Impact of Drought]	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	285	[ATT 3:] EBMUD Supply Considerations Current Operations of the Mokelumne River System Mokelumne River Watershed runoff is managed in two reservoirs, Pardee and Camanche, each equipped with hydroelectric generation facilities. The Pardee Reservoir has a capacity of 203,795 acre-feet of water, which is equivalent to 10-month supply for EBMUD's 1.4 million water customers. Ten miles downstream from Pardee Reservoir, Camanche Reservoir has a capacity of 417,120 acre-feet of water. EBMUD operates the Mokelumne River facilities in a coordinated and integrated manner as a single unified Mokelumne project. EBMUD diverts its municipal supply from Pardee Reservoir consistent with its water rights, while operating Camanche Reservoir to support those diversions and concurrently making releases from Camanche Reservoir to satisfy downstream senior rights and regulatory and environmental obligations. This operation allows EBMUD to efficiently provide a high-quality water supply for its customers and associated industries in the East Bay, while also allowing EBMUD to minimize pumping needs and ensure that it can satisfy senior water right requirements, provide flood-control protection for the lower Mokelumne River area, meet instream flow requirements, manage water temperatures to benefit the Mokelumne River fishery, satisfy recreational needs, and generate hydroelectric power consistent with regulatory requirements. An added regulatory constraint during periods of water unavailability, such as those experienced during the 2014-2016 drought and the current drought, is the State Water Resources Control Board's water rights curtailment orders that preclude EBMUD's direct diversions from the Mokelumne River. [Footnote 8: 2020 Urban Water Management Plan and Permit 10478 Time Extension Project EIR.]	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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		EBMUD's integrated Pardee-Camanche reservoir operation is necessary because the Mokelumne River is characterized by extremely variable precipitation and streamflow, both from month to month and from year to year. Figure 2 [ATT 3, Exhibit 3] below illustrates the wide range of annual water flows measured over the past 100 years. Years are classified into four "year-types": Normal/Above, Below Normal, Dry, and Critically Dry. Precipitation is typically concentrated between November and May within each year, with peak flows occurring during winter storms or during the spring snowmelt, from March to June. In contrast, depending on the year, natural unimpaired flows into Pardee Reservoir in late summer and fall may be minimal to non-existent. The 1998 Joint Settlement Agreement (JSA) provides minimum flow criteria for water to be released from Camanche Dam to the lower Mokelumne River in two periods, April – September and October – March, dependent on the California Department of Water Resources April 1st estimate of natural flow in the Mokelumne River for releases in spring and summer, and dependent on EBMUD's estimate of stored water by the end of October for releases in fall and winter. [Footnote 9: Permit 10478 Time Extension Project EIR.] Under Water Right Permit 10478, EBMUD is also committed to releasing water from Camanche Dam to the lower Mokelumne River to provide additional flows over and above JSA requirements in order to maintain adequate water depths for salmon passage during Below Normal and Dry years.	
311	286	[ATT 3: Exhibit 3: Graph titled Table 2: Historical Mokelumne Water Flows from 1921]	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.
311	287	[ATT 3:] EBMUD's Central Valley Project Contract Water Supply EBMUD and the United States Bureau of Reclamation (Reclamation) executed a contract (the CVP contract) that allows EBMUD to schedule a defined quantity of water only in dry years, when EBMUD's Mokelumne and local storage supplies decline beyond a defined minimum level. During droughts when	The commenter provided this background information for reference purposes in support of their comments. Those comments are addressed in these responses to comments; therefore, no additional response is required.

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		Mokelumne River and local supplies are insufficient, EBMUD will use its CVP contract and the Freeport Regional Water Project facilities to take delivery of CVP supplies, according to current limitations. Under its current CVP contract, EBMUD is limited to a total delivery of 165,000 acre-feet over any consecutive 3-year dry period. Actual deliveries are subject to the availability of CVP water supply. During conditions of shortage in CVP supplies, contract water deliveries are reduced, consistent with regulatory requirements. EBMUD's CVP water supply contract constitutes a critical component of EBMUD's water supply reliability as it is a key factor in meeting the demand management goal of maintaining the rationing levels adopted in EBMUD's Drought Management Program	
311	288	[ATT 3:] EBMUD's Drought Management Program (DMP) EBMUD's Drought Management Program (DMP) provides a framework to manage customer demand and pursue a diversified portfolio to reach a goal of providing 85% reliability for customers in EBMUD's service area while continuing to meet all in-stream flow obligations on the lower Mokelumne River. Under the DMP, EBMUD declares different drought stages ranging from Stage 0 (Normal) to Stage 4 (Critical) based on certain reservoir storage parameters. Each stage includes actions that may be enacted to address droughts, such as drought surcharges and increased water conservation education to manage customer water demand, and requesting water under EBMUD's dry year CVP contract.	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.
311	289	[ATT 3:] Proposed Requirements for Unimpaired Flows We understand that under Phase II of the proposed SWRCB Bay-Delta Plan Update, the State is considering the imposition of a requirement of 55 percent of the Mokelumne River's unimpaired flow into the Sacramento-San Joaquin Delta all year long, which, depending on conditions, may be adjusted within a range of 45 to 65 percent unimpaired flow. Figure 3 [ATT 3, Exhibit 4] compares the calculated natural or unimpaired Mokelumne River flows and measured regulated	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific analysis of environmental impacts of the project, or do not raise specific economic effects of the project. Please see Common Response 7.20, Utilities and Service Systems, for responses to comments that address the availability of municipal water and alternative water supplies. Also, please see response to comment 311-49 regarding temperature impacts on fisheries. In addition, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. In addition

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		flows near Mokelumne Hill upstream of Pardee Reservoir. The unimpaired or natural flow is higher than the regulated flow from February to June as reservoirs upstream of Pardee Reservoir are filled with the excess runoff, and unimpaired flow is lower than regulated flow from June to February as stored water is released to comply with existing release requirements and downstream senior water rights obligations. The result of the percent of unimpaired flow requirement would shift regulated flow closer to the unimpaired flow line. The effect would be that EBMUD and all other users upstream and downstream of Pardee and Camanche Reservoirs will not be allowed to capture snowmelt runoff to fill reservoirs in the spring, when it is available, and will have less water to meet demands and contractual obligations during the summer and fall, creating a water shortage condition in many years. This is seen in the modeling results. Results indicate that implementation of 45% or 55% unimpaired flow releases significantly decreases the historical reliability of EBMUD's water supplies, increases the need for supplemental CVP and other supplies, results in more frequent and severe water supply shortages and requires significantly higher demand rationing by EBMUD customers. It would also cause water temperature impacts, leading to adverse fishery impacts, a topic that is beyond the scope of the report.	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. 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 to 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.
311	290	[ATT 3, Exhibit 4: Graph titled Figure 3: Seasonal Cycle of Unimpaired and Regulated Flows]	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.
311	291	[ATT 3:] EBMUD Demand Considerations Sectors of Water Demand EBMUD delivers water to six different service sectors that we consider in this analysis: Single Family Residential, Multi-Family Residential, Institutional, Industrial, Commercial, and Dedicated Irrigation. The proportion of demand accounted for by these service sectors is shown in Figure 4 [ATT 3, Exhibit 5] below. We estimate the welfare losses associated with supply shortages	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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		using demand functions that describe the relationship between the quantity of water supplied and each customer's willingness to pay for an additional unit of water. Different demand functions are used for each of the six types of customer accounts described above. We calibrate the demand functions using forecasted demand levels and demand elasticities reported in the EBMUD 2020 Urban Water Management Plan (UWMP), and 2020 water rates reported on the EBMUD website. Table 2 [ATT 3, Exhibit 6] shows the data used to calibrate the demand functions.	
311	292	[ATT 3, Exhibit 5: Pie chart titled Figure 4: Composition of Aggregate Demand in EBMUD Service Area]	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.
311	293	[ATT 3, Exhibit 6: Table titled Table 2: Data Used to Calibrate Demand Functions]	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.
311	294	[ATT 3:] EBMUD's Drought Management Program EBMUD's Drought Management Program allows the utility to manage customer demand with a diversified portfolio while providing 85 percent reliability in its service area and meeting stream flow obligations. The program consists of drought stages numbered 0-4 that indicate increasing severity (i.e., Stage 0 is "Normal" and Stage 4 is "Critical"). Table 3 [ATT 3, Exhibit 7] describes the stages of the drought management plan and corresponding customer demand reductions. Water rates and penalties for excessive use increase as the drought stage becomes more severe. Under Stages 2 or higher, EBMUD may apply a drought surcharge to recover costs, or they may enforce penalties for excessive water use [Footnote 10: Note: We do not incorporate the increased costs of drought rates or surcharges in our welfare loss analysis, below. Such an increase would increase the customer welfare losses but reduce EBMUD revenue losses.]. EBMUD also implements different programs in each drought stage. For example, in Stage 1, EBMUD may initiate a community water waste hotline, an online water waste reporting system or conduct water audits. In Stage 4, they	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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		may issue up to 20,000 free water savings devices. [Footnote 11: EBMUD, "Water Shortage Contingency Plan 2020".]	
311	295	[ATT 3, Exhibit 7: Table titled Table 3: Stages of EBMUD Drought Management]	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.
311	296	[ATT 3:] Simulated Levels of Demand Rationing Based On Historical Hydrological Data EBMUD provided The Brattle Group with estimates of long-term water demand, available supplies, and the frequency of shortages, based on historical hydrological patterns between 1921 and 2014. These inputs were provided for both 2020 and 2050 levels of demand in EBMUD's service area. For each level of demand, EBMUD provided inputs representing three management scenarios: a. A Baseline Scenario with existing flow release requirements that follow EBMUD's current drought management plan. B. A 45% Unimpaired Flow Scenario in which releases are modified to ensure a minimum of 45% of the unimpaired flow on a daily basis is released on the Mokelumne River. C. A 55% Unimpaired Flow Scenario in which releases are modified to ensure a minimum of 55% of the unimpaired flow on a daily basis is released on the Mokelumne River. Figure 5 [ATT 3, Exhibit 8] illustrates how each of the three management scenarios would translate to demand rationing over the past century (as depicted above in Figure 2 [ATT 3, Exhibit 3]). The top panel shows the demand rationing that would be required at historical flow levels assuming the 2020 level of demand, and the bottom panel shows demand rationing assuming the 2050 level of demand. Figure 6 [ATT 3, Exhibit 9] presents the same data as Figure 5 [ATT 3, Exhibit 8], but with the historical water years arranged from the worst cumulative drought (the 0% quantile of historical annual water availability) to the highest level of historical annual	Changes in water supply for each alternative are presented in Chapter 6, Changes in Hydrology and Water Supply, and impacts to municipal users are further analyzed in Section 7.20, Utilities and Service Systems, of the draft Staff Report. These model results are presented as worst case scenarios that do not utilize flexibility in the Plan for adaptive implementation and local cooperative solutions. Water right holders may propose local cooperative solutions for individual tributaries, two or more tributaries, or for regions, including the Delta. If a local cooperative solution is developed for two or more tributaries, the tributaries may work together to meet the combined numeric inflow requirements provided that the narrative inflow and cold water habitat objectives are met on each individual tributary. 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. 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. 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.

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		water availability (the 100% quantile). The y-axis shows the extent of demand shortages in each ranked year. This illustrates the frequency with which such rationing measures could be expected to occur, assuming future hydrology is similar to the past. These estimates of demand rationing are conservative as the modeling assumes historical hydrology and does not consider the impact of climate change which is expected to increase the hydrology's variability. 1. Under a 2020 Level of Demand: a. In the Baseline Scenario, demand exceeds supply in 5% of all years, causing a maximum of 13.7% demand rationing. B. In the 45% Unimpaired Flow Scenario, demand exceeds supply in 15% of all years, causing a maximum of 26.3% demand rationing. C. In the 55% Unimpaired Flow Scenario, demand exceeds supply in 35% of all years, causing a maximum of 49.7% demand rationing. 2. Under a 2050 Level of Demand: a. In the Baseline Scenario, demand exceeds supply in 12% of all years, causing a maximum of 16.1% demand rationing. B. In the 45% Unimpaired Flow Scenario, demand exceeds supply in 36% of all years, causing a maximum of 49.6% demand rationing. C. In the 55% Unimpaired Flow Scenario, demand exceeds supply in 51% of all years, causing a maximum of 88.1% demand rationing.	
311	297	[ATT 3, Exhibit 8: Two graphs titled Figure 5: Levels of Demand Rationing Based on Historical Water Years (Chronological)]	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.
311	298	[ATT 3, Exhibit 9: Two graphs titled Levels of Demand Rationing Based on Historical Water Years (by Volume)]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of

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			the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
311	299	[ATT 3:] Economic Impacts of Instream Flow Requirements for EBMUD Service Area EBMUD asked The Brattle Group to analyze the economic impacts of instream flow requirements on the Mokelumne River for the Reduced Supply Scenarios at 45% Unimpaired Flow or 55% Unimpaired Flow, given the demand rationing that would be made necessary under each scenario based on historical water flow, as outlined above. We estimate of economic impacts across these two conditions on four key dimensions: 1. Customer welfare losses, based on the amount customers would be willing to pay for water that they did not receive. 2. Number of lost jobs at local businesses resulting from water service interruptions. 3. Value of lost sales at local businesses resulting from water service interruptions. 4. Revenue losses to EBMUD from reduced water sales. We estimate the economic impacts associated with water supply interruptions based on well- established methodologies that have been published in scientific journals [Footnote 14: Buck, S., Auffhammer, M., Hamilton, S., & Sunding, D. (2016). Measuring welfare losses from urban water supply disruptions. Journal of the Association of Environmental and Resource Economists, 3(3), 743-778.] and have been applied to estimate welfare losses in the service areas of other major water utilities, including the San Francisco Public Utilities Commission, the Metropolitan Water District of Southern California and other cities in California and beyond.	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	300	[ATT 3:] Customer Welfare Losses We define customer welfare loss as the impact on customer	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-

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		welfare resulting from forced reductions in water usage due to demand rationing. Customer welfare loss is a broad term that encompasses all forms of harm to the customer, including business losses if the customer is a business, and diminished enjoyment. We express welfare losses in dollar terms, based on customers' observed willingness to pay higher unit rates to avoid shortages. Key Assumptions We estimate welfare losses and other economic impacts based on levels of water demand from the 2050 EBMUD Demand Study produced by Hazen & Sawyer as part of EBMUD's 2020 Urban Water Management Plan (UWMP). We assume that there is no increase in real water rates between 2020 and 2050. Our calculations use EBMUD's 2020 rates as reported on their website. For Single Family Residential rates, we simplify the analysis by assuming all customers are on the median rate tier. For dedicated irrigation accounts, we assume that only accounts using potable water, rather than recycled water are curtailed [Footnote 15: Due to wastewater supply limitations in West County and DERWA, reduced potable water usage by EBMUD customers will result in reductions in the availability of recycled water supplies. Therefore, recycled water users may have to reduce their use and in certain cases, potable demand may actually increase, requiring further potable reductions by other customers.], and that these accounts pay Commercial and Industrial rates. If there is not enough water supply to satisfy demand, then customers must reduce their water use or have their supply curtailed, leading to welfare losses in either case. Although we calculate welfare loss by reference to evidence from demand curves, we do not assume that EBMUD will implement drought rates to incentivize conservation or to recover revenue during extreme droughts. [Footnote 16: If drought rates are implemented to recover EBMUD's revenue losses, the projected revenue losses would effectively be transferred over as additional customer welfare costs.] We instead adopt assumptions from the EBMUD 2020 Water Shortage Contingency Plan, under which demand rationing is allocated across different	party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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		customer types. We estimate the welfare losses associated with supply shortages based on demand functions that describe the relationship between the quantity of water supplied and each customer's willingness to pay for water. The sector-specific demand functions use an iso-elastic functional form and are calibrated using estimates of demand elasticities at similar water utilities from published estimates and from Brattle's prior research. The model limits consumer welfare losses at a marginal value of \$10,000 per acre-foot, as this is the approximate cost of providing emergency water supplies to residential and commercial customers. [Footnote 17: Brozovic, N., D. Sunding and D. Zilberman. (2007). Estimating business and residential water supply interruption losses from catastrophic events. Water Resources Research, 43(8), 1-14.] These assumptions are summarized in Table 4 [ATT 3, Exhibit 10].	
311	301	[ATT 3, Exhibit 10: Table titled Table 4: Key Assumptions for Economic Impact Calculations]	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	302	[ATT 3:] Impact of Shortages on Customer Welfare Loss During a period of rationing, customers first implement the least expensive measures, from a perspective of welfare loss, to reduce water use. As shortages become larger, customers must take more costly actions to further reduce their water use and therefore become willing to pay higher amounts for an additional unit of water. As a result, the loss of customer welfare from water shortages increases dramatically as the magnitude of the shortage increases, causing more injury for each additional unit of water curtailed. We estimated customer welfare losses across varying levels of shortage under 2020 and 2050 levels of demand, using the calibrated demand curves. Figure 7 [ATT 3, Exhibit 11] shows the welfare loss from each additional acre-foot of water not received as the magnitude of water shortages increases from 0% to 50%.	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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		The total customer welfare loss from a shortage is calculated by adding up the willingness-to- pay for each acre-foot of water the utility is unable to supply. Figure 8 [ATT 3, Exhibit 12] shows the total welfare losses increase from \$0 when there is no shortage to over \$750 Million per year based on 2020 levels of demand assuming there is a 50% demand shortage, and over \$900 Million per year based on a 2050 level of demand.	
311	303	[ATT 3, Exhibit 11: Two graphs titled Figure 7: Estimated Unit Cost of Demand Rationing]	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	304	[ATT 3, Exhibit 12: Graph titled Figure 8: Welfare Losses under Increasing Demand Rationing]	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	305	[ATT 3:] Customer Welfare Losses under Alternative Management Scenarios Based on these shortage impact calculations, we further estimated the welfare losses in each sector associated with the water shortages that result from each of the three management scenarios, for both 2020 and 2050 levels of demand. The results are presented in Table 5 [ATT 3, Exhibit 13]. They indicate that: 1. Under a 2020 Level of Demand: a. In the Baseline Scenario, customers suffer welfare losses of \$1 Million on average for each year that demand exceeds supply. In the worst drought year, customers suffer welfare losses of over \$50.9 Million. b. In the 45% Unimpaired Flow Scenario, customers suffer welfare losses of \$8.1 Million on average for each year that demand exceeds supply. In the worst drought year, customers suffer welfare losses of over \$219.7 Million. c. In the 55% Unimpaired Flow Scenario, customers suffer	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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		welfare losses of \$12.7 Million on average for each year that demand exceeds supply. In the worst drought year, customers suffer welfare losses of over \$389.7 Million. 2. Under a 2050 Level of Demand: a. In the Baseline Scenario, customers suffer welfare losses of \$3.3 Million on average for each year that demand exceeds supply. In the worst drought year, customers suffer welfare losses of over \$80.3 Million. b. In the 45% Unimpaired Flow Scenario, customers suffer welfare losses of \$43.7 Million on average for each year that demand exceeds supply. In the worst drought year, customers suffer welfare losses of over \$966.0 Million. c. In the 55% Unimpaired Flow Scenario, customers suffer welfare losses of \$181.2 Million on average for each year that demand exceeds supply. In the worst drought year, customers suffer welfare losses of over \$1,875.2 Million. Figure 9 [ATT 3, Exhibit 14] presents the overall distribution of total losses from demand rationing under the three management scenarios across the historically recorded levels of water flow in each hydrological year from 1921-2019. Each point on the x-axis references the recorded level of flow for a particular historical year in that period, arranged from the most severe cumulative drought year recorded (the 0% quantile of historical annual water availability) to the wettest (the 100% quantile). The y-axis shows the welfare losses associated with demand rationing at that level of drought. Results are presented for both 2020 and 2050 levels of demand. [Footnote 18: Note: A given percentage of shortage has an increased impact on welfare in 2050 as compared to 2020, because increased demand in 2050 starts the calculation at a more advanced stage of the demand curve. In methodological terms, the formulae for calculation of welfare losses was published by Buck, et. al. (2015), "Measuring the Welfare Losses from Urban Supply Disruptions," and relies on a constant which reflects existing demand, price elasticity, and rates. These constants are reported for 2020 and 2050 in Table 6-2 in the 2050 EBMUD Demand Study produced by Hazen &	

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		Sawyer as part of EBMUD's 2020 UWMP. Disproportionate increases in welfare costs in 2050 are representative of the increase in this input between the two years to reflect the economic effects of increased demand.]	
311	306	[ATT 3, Exhibit 13: Table titled Table 5: Welfare Losses under Simulated Hydrology]	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	307	[ATT 3, Exhibit 14: Two graphs titled Figure 9: Welfare Losses under Simulated Hydrology]	Please see Common Response 8.1, Economic Analysis and Other Considerations, for responses to comments regarding the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	308	[ATT 3:] Employment Losses Key Assumptions To estimate the number of jobs that would be lost at local businesses served by EBMUD during water service interruptions, we use elasticities from a study based on a survey of employers in the San Francisco Bay Area. [Footnote 19: MHB Consultants, Inc., "The Economic Impact of Water Delivery Reductions on the San Francisco Water Department's Commercial and Manufacturing Customers," 1994. Tables 13 and 14 (pp. 48, 50).] These elasticities describe the percent change in employment in the commercial and industrial sectors that would result from a one percent reduction in the water supply. The report estimates elasticities for both moderate shortages, between 0% and 15% percent of water supply, and for severe shortages, between 15% and 30% of water supply. [Footnote 20: Note: It is likely that job losses resulting from shortages of greater than 30% would continue to accelerate, however we lack data required to project such acceleration, and therefore conservatively assume the known relationship between shortages and job losses at the 30% level would continue beyond it without further acceleration.] In the areas that EBMUD partially serves – Hayward, Pleasant Hill, San Ramon, and Walnut Creek – we apply service area coverages of 25%, 21%, 70%, and 71%, respectively as provided by EBMUD. We use projections from the Plan Bay Area 2040 plan to identify	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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		current levels of employment in Alameda and Contra Costa Counties. These estimates are pro-rated to reflect the share of the employment in each county that is within the EBMUD service area. We project employment in 2050 by assuming linear growth based on projections from Plan Bay Area 2040. Employment levels and elasticity data are shown in Table 6 [ATT 3, Exhibit 15]. Impact of Shortages on Employment Loss We separately estimate the number of jobs lost in the commercial and industrial sectors in the EBMUD service area based on the estimated relationship between water shortages and job losses in each sector. We then add these estimates to calculate total job losses. Figure 10 [ATT 3, Exhibit 16] shows the total number of jobs lost as the magnitude of water shortages increases from 0% to 50%.	
311	309	[ATT 3, Exhibit 15: Table titled Table 6: Key Assumptions for Job Loss Calculations]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	310	[ATT 3, Exhibit 16: Graph titled Figure 10: Estimated Number of Jobs Lost Resulting from Demand Rationing]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	311	[ATT 3:] Employment Losses under Alternative Management Scenarios Figure 11 [ATT 3, Exhibit 17] shows the relationship between water availability and job losses under each of the three management scenarios, at the 2020 and 2050 levels of demand, for historically recorded levels of flow in each hydrological year from 1921-2019. Each point on the x-axis references the recorded level of flow for a particular historical year in that period, again arranged from the year with the most severe cumulative drought recorded (the 0% quantile of historical annual water availability) to the year with the highest water availability (the 100% quantile). The y-axis indicates the number of jobs lost at each level of drought.	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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		Table 7 [ATT 3, Exhibit 18] summarizes the expected number of jobs lost during drought under each of the three management scenarios, as well as the number of jobs lost in a 10-year drought, a 20-year drought and in the worst drought year historically observed [Footnote 21: See Note under Table 6 for definitions of 10-year and 20-year drought.]. They indicate that: 1. Under a 2020 Level of Demand: a. In the Baseline Scenario, we forecast job losses of 1,652 full-time equivalent (FTE) employees per year, for every year in which demand exceeds supply. In the worst drought year, 5,814 FTE employees lose their jobs. b. In the 45% Unimpaired Flow Scenario, we forecast job losses of 4,489 FTE employees per year, for every year in which demand exceeds supply. In the worst drought year, 49,889 FTE employees lose their jobs. c. In the 55% Unimpaired Flow Scenario, we forecast job losses of 11,703 FTE employees per year, for every year in which demand exceeds supply. In the worst drought year, 140,017 FTE employees lose their jobs. 2. Under a 2050 Level of Demand: a. In the Baseline Scenario, we forecast job losses of 3,084 full-time equivalent (FTE) employees per year, for every year in which demand exceeds supply. In the worst drought year, 11,977 FTE employees lose their jobs. b. In the 45% Unimpaired Flow Scenario, we forecast job losses of 13,176 FTE employees per year, for every year in which demand exceeds supply. In the worst drought year, 161,407 FTE employees lose their jobs. c. In the 55% Unimpaired Flow Scenario, we forecast job losses of 42,616 FTE employees per year, for every year in which demand exceeds supply. In the worst drought year, 333,139 FTE employees lose their jobs.	

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311	312	[ATT 3, Exhibit 17: Two graphs titled Figure 11: Number of Jobs Lost under Simulated Hydrology]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	313	[ATT 3, Exhibit 18: Table titled Table 7: Number of Jobs Lost under Simulated Hydrology]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	314	[ATT 3:] Business Sales Losses Key Assumptions To estimate the number of lost business sales at local businesses EBMUD's service area resulting from water service interruptions, we use elasticities estimated in the same study based on a survey of employers in the San Francisco Bay Area referenced above. These elasticities describe the percent change in sales in the commercial and industrial sectors that would result from a one percent reduction in water supply. The report estimates elasticities for both moderate shortages, between 0% and 15% percent of water supply, and for severe shortages, between 15% and 30% of water supply. [Footnote 22: Note: As with job loss, we lack the data to estimate the level of acceleration in sales losses that would be expected to result from shortages of greater than 30%. We therefore conservatively apply the known relationship at the 30% level, beyond that point.] We use data from the 2017 Economic Census to identify current and future levels of business sales in Alameda County and Contra Costa County [Footnote 23: We used the 2017 Economic Census sales data to project both 2020 and 2050 business sales.], [Footnote 24: We used sales revenue data for NAICS codes 31-33 for the industrial sector and NAICS codes 42, 51, 53, 54, 61, 62, 71, 72, and 81 for the commercial sector.]. We project 2020 and 2050 sales by using an annual growth rate of 1.5%. The assumed elasticities and Sales data are shown in Table 8. EBMUD serves customers in Alameda and Contra Costa counties. We estimate that EBMUD currently serves 57% of all customers	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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		in Alameda County and 50% of customers in Contra Costa County. [Footnote 25: These percentages are obtained by dividing the county's employment within the EBMUD service boundary by the county's total employment.] We assume that in 2050, EBMUD will serve the same proportion of customers in each county as they currently do. Impact of Shortages on Business Sales We separately estimate lost sales in the commercial and industrial sectors in EBMUD's Alameda and Contra Costa County service area based on the estimated relationship between water shortages and business sales losses in each sector. Then we add these numbers together to calculate total sales losses. Figure 12 [ATT 3, Exhibit 20] shows the total sales losses as the magnitude of water shortages increases from 0% to 50%. Business Sales Losses under Alternative Management Scenarios Figure 13 [ATT 3, Exhibit 21] shows the distribution of lost business sales under each of the three management scenarios. On the x-axis, each hydrological year is arranged from the driest year (at 0%) to the wettest (at 100%). The y-axis axis shows the sales losses associated with demand rationing at a given level of drought. Table 9 [ATT 3, Exhibit 22] reports the expected volume of sales lost during a drought year under each of the three management scenarios. The dashed vertical lines indicate the water availability during a 10- year drought, a 20-year drought and in the worst drought year historically observed. This figure indicates that: 1. Under a 2020 Level of Demand: a. In the Baseline Scenario, businesses suffer sales losses of \$317 Million on average for every year in which demand exceeds supply. In the worst drought year, businesses are expected to suffer sales losses worth \$1.1 Billion.	

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		B. In the 45% Unimpaired Flow Scenario, businesses suffer sales losses of \$731 Million on average for every year in which demand exceeds supply. In the worst drought year, businesses are expected to suffer sales losses worth \$6.57 Billion. C. In the 55% Unimpaired Flow Scenario, businesses suffer sales losses of \$1.64 Billion on average for every year in which demand exceeds supply. In the worst drought year, businesses are expected to suffer sales losses worth \$17.66 Billion. 2. Under a 2050 Level of Demand: a. In the Baseline Scenario, businesses suffer sales losses of \$800 Million on average for each year in which demand exceeds supply. In the worst drought year, businesses are expected to suffer sales losses worth \$2.72 Billion. B. In the 45% Unimpaired Flow Scenario, businesses suffer sales losses of \$2.55 Billion on average for every year in which demand exceeds supply. In the worst drought year, businesses are expected to suffer sales losses worth \$27.53 Billion. C. In the 55% Unimpaired Flow Scenario, businesses suffer sales losses of \$7.53 Billion on average for every year in which demand exceeds supply. In the worst drought year, businesses are expected to suffer sales losses worth \$56.05 Billion.	
311	315	[ATT 3, Exhibit 19: Table titled Table 8: Key Assumptions for Sales Loss Calculations]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	316	[ATT 3, Exhibit 20: Graph titled Figure 12: Effects of Shortages on Business Sales]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	317	[ATT 3, Exhibit 21: Two graphs titled Figure 13: Lost Sales under Simulated Hydrology]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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311	318	[ATT 3, Exhibit 22: Table titled Table 9: Business Sales Losses under Simulated Hydrology]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	319	EBMUD Revenue Losses Impact of Shortages on EBMUD Revenues Water shortages will significantly reduce the revenue collected from EBMUD's customers. For each level of water shortage, we calculated EBMUD's lost revenue based on the reduction in demand for each type of customer and the variable rates that those customers pay. [Footnote 26: Note that under Stages 2 or higher of EBMUD's Drought Management Plan, EBMUD has the right to apply drought surcharges or other penalties to recover such revenue losses. However, such an increase in rates will further increase customer welfare losses by at least the same amount as the revenue recovered by EBMUD.] Figure 14 [ATT 3, Exhibit 23] shows total EBMUD revenue losses from demand rationing. Total revenue losses increase from \$0 when there is no shortage to over \$200 Million per year when there is 50% demand rationing, assuming the 2020 level of demand. At the 2050 level of demand, total lost revenue is over \$250 Million per year when there is 50% demand rationing. [Footnote 27: For purposes of this analysis, we assume no adjustment to rates to cover revenue losses. We are informed, however, that in cases of excessive water shortages, drought rates would likely be implemented to recover EBMUD's revenue losses. Assuming such drought rates are calibrated to entirely cover revenue losses, the projected revenue losses would effectively be transferred over as additional customer welfare costs.] EBMUD Revenue Losses under Alternative Management Scenarios Table 10 [ATT 3, Exhibit 24] reports the expected annual revenue loss across all years in which demand is curtailed, and the expected revenue loss in a 10-year drought, in a 20-year	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).

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		drought and during the worst drought year historically observed. They indicate that: 1. Under a 2020 Level of Demand: a. In the Baseline Scenario, EBMUD revenue falls by \$2.7 Million on average for each year that demand exceeds supply. In the worst drought year, EBMUD revenue falls by \$63.1 Million. B. In the 45% Unimpaired Flow Scenario, EBMUD revenue falls by \$9.4 Million on average for each year that demand exceeds supply. In the worst drought year, EBMUD revenue falls by \$116.6 Million. C. In the 55% Unimpaired Flow Scenario, EBMUD revenue falls by \$22.7 Million on average for each year that demand exceeds supply. In the worst drought year, EBMUD revenue falls by \$219.6 Million. 2. Under a 2050 Level of Demand: a. In the Baseline Scenario, EBMUD revenue falls by \$6.8 Million on average for each year that demand exceeds supply. In the worst drought year, EBMUD revenue falls by \$84.0 Million. B. In the 45% Unimpaired Flow Scenario, EBMUD revenue falls by \$29.8 Million on average for each year that demand exceeds supply. In the worst drought year, EBMUD revenue falls by \$264.3 Million. C. In the 55% Unimpaired Flow Scenario, EBMUD revenue falls by \$69.6 Million on average for each year that demand exceeds supply. In the worst drought year, EBMUD revenue falls by \$486.9 Million. Figure 15 [ATT 3, Exhibit 25] shows the overall distribution of total revenue losses for EBMUD. On the x-axis, each hydrological year is arranged from the year with the worst cumulative drought (the 0% quantile of historical water availability) to the year with the highest water availability (the 100% quantile). The	

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		figure shows the revenue losses associated with demand rationing at each given level of drought.	
311	320	[ATT 3, Exhibit 23: Graph titled Figure 14: EBMUD Revenue Losses under Increasing Demand Rationing]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	321	[ATT 3, Exhibit 24: Table titled Table 10: Revenue Losses under Simulated Hydrology]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	322	[ATT 3, Exhibit 25: Two graphs titled Figure 15: Revenue Losses under Simulated Hydrology]	Please refer to response to Comment 311-5 regarding issues raised in the third-party economic analysis submitted with EBMUD's comments on the 2023 draft Staff Report (Sunding and Browne 2022).
311	323	[ATT 4: Exhibit D—Letter from East Bay Municipal Utility District to State Water Resources Control Board dated December 16, 2016 Re: Comments on the October 2016 Working Draft Scientific Basis Report]	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 and for comments submitted for preceding documents.
311	324	[ATT 5: East Bay Municipal Utility District February 6, 2023 comments on the Draft Scientific Basis Report Supplement.]	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.
311	365	[ATT 6: Exhibit F—PowerPoint titled Bay-Delta WQCP Temperature Modeling Workshop Temperature Modeling for the Mokelumne System & Beyond]	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.
311	366	[ATT 7: Exhibit G—List of Mokelumne River scientific data and reports included as attachments to EBMUD's comment letter]	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.
311	367	[ATT 8: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2012 through March 2013]	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,

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311	368	[ATT 9: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2011 through July 2012]	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.
311	369	[ATT 10: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2010 through July 2011]	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.
311	370	[ATT 11: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2009 through March 2010]	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.
311	371	[ATT 12: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2011 through February 2012]	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.
311	372	[ATT 13: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2012 through March 2013]	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.
311	373	[ATT 14: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2018 through January 2019]	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.
311	374	[ATT 15: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2017 through March 2018]	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.

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311	375	[ATT 16: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2016 through December 2016]	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.
311	376	[ATT 17: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2015 through March 2016]	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.
311	377	[ATT 18: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2014 through February 2015]	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.
311	378	[ATT 19: Document titled Lower Mokelumne River Salmonid Redd Survey Report: October 2013 through March 2014]	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.
311	379	[ATT 20: Lower Mokelumne River Salmonid Redd Survey Report (October 2010 through March 2011)]	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.
311	380	[ATT 21: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2013 through July 2014]	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.
311	381	[ATT 22: Document titled Emigration of Juvenile Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Steelhead (<i>Oncorhynchus mykiss</i>) in the Lower Mokelumne River, December 2013 – June 2014]	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.
311	382	[ATT 23: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2014 through July 2015]	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,

Letter No.	Comment No.	Comment	Response
			General Comments, for the approach to addressing attachments to comments.
311	383	[ATT 24: Document titled Emigration of Juvenile Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Steelhead (<i>Oncorhynchus mykiss</i>) in the Lower Mokelumne River, December 2014 – June 2015]	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.
311	384	[ATT 25: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2015 through May 2016]	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.
311	385	[ATT 26: Document titled Emigration of Juvenile Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Steelhead (<i>Oncorhynchus mykiss</i>) in the Lower Mokelumne River, December 2015 – July 2016]	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.
311	386	[ATT 27: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2016 through January 2017]	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.
311	387	[ATT 28: Document titled Emigration of Juvenile Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Steelhead (<i>Oncorhynchus mykiss</i>) in the Lower Mokelumne River, December 2016 through July 2017]	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.
311	388	[ATT 29: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2017 through May 2018]	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.
311	389	[ATT 30: Document titled Emigration of Juvenile Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Steelhead (<i>Oncorhynchus mykiss</i>) in the Lower Mokelumne River, December 2017 – July 2018]	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.

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311	390	[ATT 31: Emigration of Juvenile Chinook Salmon and Steelhead in the Lower Mokelumne River (December 2009 through July 2010)]	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.
311	391	[ATT 32: Document titled Emigration of Juvenile Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Steelhead (<i>Oncorhynchus mykiss</i>) in the Lower Mokelumne River, December 2011 through July 2012]	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.
311	392	[ATT 33: Document titled Emigration of Juvenile Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Steelhead (<i>Oncorhynchus mykiss</i>) in the Lower Mokelumne River, December 2012 - July 2013]	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.
311	393	[ATT 34: Document titled Emigration of Juvenile Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Steelhead (<i>Oncorhynchus mykiss</i>) in the Lower Mokelumne River, December 2010 through July 2011]	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.
311	394	[ATT 35: Emigration of Juvenile Chinook Salmon and Steelhead in the Lower Mokelumne River (December 2009 through July 2010)]	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.
311	395	[ATT 36: Document titled Lower Mokelumne River Fisheries Monitoring Program 1999–2000]	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.
311	396	[ATT 37: Document titled Downstream Migration Monitoring at Woodbridge Dam on the Lower Mokelumne River, Ca. December 2000 through July 2001]	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.
311	397	[ATT 38: Document titled Downstream Migration Monitoring at Woodbridge Dam on the Lower Mokelumne River, Ca. December 2001 through July 2002]	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,

Letter No.	Comment No.	Comment	Response
			General Comments, for the approach to addressing attachments to comments.
311	398	[ATT 39: Document titled Downstream Migration Monitoring at Woodbridge Dam on the Lower Mokelumne River, Ca. December 2002 through July 2003]	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.
311	399	[ATT 40: Document titled Downstream Fish Migration Monitoring at Woodbridge Irrigation District Dam Lower Mokelumne River, January 2004 through June 2004]	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.
311	400	[ATT 41: Document titled Downstream Fish Migration Monitoring at Woodbridge Irrigation District Dam Lower Mokelumne River, January 2005 through July 2005]	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.
311	401	[ATT 42: Document titled Downstream Fish Migration Monitoring at Woodbridge Irrigation District Dam Lower Mokelumne River, December 2005 through July 2006]	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.
311	402	[ATT 43: Document titled Downstream Fish Migration Monitoring at Woodbridge Irrigation District Dam Lower Mokelumne River, December 2006 through July 2007]	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.
311	403	[ATT 44: Document titled Downstream Fish Migration Monitoring on the Lower Mokelumne River from January 8, 2008 through May 29, 2008]	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.
311	404	[ATT 45: Document titled Monitoring Emigration of Juvenile Chinook Salmon and Steelhead in the Mokelumne River, December 2008 through July 2009]	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.

Letter No.	Comment No.	Comment	Response
311	405	[ATT 46: Emigration of Juvenile Chinook Salmon and Steelhead in the Lower Mokelumne River (December 2009 through July 2010)]	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.
311	406	[ATT 47: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2000 through April 2001]	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.
311	407	[ATT 48: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2001 through March 2002]	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.
311	408	[ATT 49: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2002 through July 2003]	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.
311	409	[ATT 50: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2003 through July 2004]	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.
311	410	[ATT 51: Document titled Lower Mokelumne River Upstream Fish Migration Monitoring Conducted at Woodbridge Irrigation District Dam August 2004 through July 2005]	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.
311	411	[ATT 52: Document titled Lower Mokelumne River Fall run Chinook Salmon Escapement Report October through December 2005]	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.
311	412	[ATT 53: Document titled Lower Mokelumne River Fall-run Chinook Salmon Escapement Report October 2007 through January 2008]	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,

Letter No.	Comment No.	Comment	Response
			General Comments, for the approach to addressing attachments to comments.
311	413	[ATT 54: Document titled Lower Mokelumne River Fish Community Survey. 1 January 1997 through 30 June 2004]	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.
311	414	[ATT 55: Lower Mokelumne River Salmonid Spawning Habitat Improvement Project Monitoring (June 2004)]	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.
311	415	[ATT 56: Document titled Fall-run chinook salmon and steelhead trout spawning survey, September 2002 through March 2003 Mokelumne River, California]	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.
311	416	[ATT 57: Document titled Summary of Fall-run Chinook Salmon and Steelhead Trout Spawning in the Lower Mokelumne River, California 1996-2003]	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.
311	417	[ATT 58: Document titled Fall-run chinook salmon spawning survey September 2005 through January 2006 Mokelumne River, California]	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.
311	418	[ATT 59: Document titled Salmonid Survey Spawning Report, October 2006 Through March 2007, Mokelumne River, California]	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.
311	419	[ATT 60: Document titled Fall-run Chinook Salmon and Winter-run Steelhead Redd Survey Report: October 2007 through March 2008]	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.

Letter No.	Comment No.	Comment	Response
311	420	[ATT 61: Document titled Fall-run Chinook Salmon and Winter-run Steelhead Redd Survey Report: October 2008 through March 2009]	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.
311	421	[ATT 62: Lower Mokelumne River Salmonid Redd Survey Report (October 2009 through March 2010)]	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.
311	422	[ATT 63: Lower Mokelumne River Salmonid Redd Survey Report (October 2010 through March 2011)]	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.
311	423	[ATT 64: Document titled Modification of Flood Flow Releases to Support Restoration of Ecological Processes]	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.
311	424	[ATT 65: Document titled Use of Macroinvertebrates as an Indicator of Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) Spawning Habitat Quality in the Lower Mokelumne River, California]	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.
311	425	[ATT 66: Document titled Spawning Habitat Rehabilitation]	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.
311	426	[ATT 67: Document titled Floodplain Restoration Potential on the Lower Mokelumne River, California]	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.
311	427	[ATT 68: Document titled Spawning Habitat Enhancement for Pacific Salmon (<i>Oncorhynchus</i> spp.) In A Regulated 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,

Letter No.	Comment No.	Comment	Response
			General Comments, for the approach to addressing attachments to comments.
311	428	[ATT 69: Document titled Cosumnes & Mokelumne Rivers Floodplain Integrated Resources Management Plan Floodplain Resources Characterization Report]	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.
311	429	[ATT 70: Document titled Terrestrial Vegetation Communities along the Lower Mokelumne River, California]	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.
311	430	[ATT 71: Lower Mokelumne River Salmonid Spawning Habitat Improvement Project Monitoring (June 2004)]	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.
311	431	[ATT 72: Document titled Riverine Habitat Characterization of the Lower Mokelumne River, California]	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.
311	432	[ATT 73: Document titled Lower Mokelumne River Project FERC Project No. 2916-004 Joint Settlement Agreement]	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.
311	433	[ATT 74: Document titled Lower Mokelumne River Project Water Quality and Resource Management Program]	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.
311	434	[ATT 75: Document titled Lower Mokelumne River Project FERC Project No. 2916 2022 Project Operations Report]	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.

Letter No.	Comment No.	Comment	Response
311	435	[ATT 76: Webpage titled Salmon Doubling Goal]	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.
311	436	[ATT 77: Article titled Contribution of bedrock nitrogen to high nitrate concentrations in stream water]	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.
311	437	[ATT 78: Article - Homogenization of Fall-Run Chinook Salmon Gene Pools in the Central Valley of California (2005)]	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.
311	438	[ATT 79: Article titled Simulation of flood impact and habitat extent for a tidal freshwater marsh restoration]	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.
311	439	[ATT 80: Article titled Construction Constraints for Geomorphic-Unit Rehabilitation on Regulated Gravel-Bed Rivers]	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.
311	440	[ATT 81: Article titled Use of Otolith Microstructure to Discriminate Stocks of Juvenile Central Valley, California, Fall-Run Chinook Salmon]	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.
311	441	[ATT 82: Article titled State-dependent life history models in a changing (and regulated) environment: steelhead in the California Central Valley]	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.
311	442	[ATT 83: Article titled Quantifying the contribution of juvenile migratory phenotypes in a population of Chinook salmon <i>Oncorhynchus tshawytscha</i>]	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,

Letter No.	Comment No.	Comment	Response
			General Comments, for the approach to addressing attachments to comments.
311	443	[ATT 84: Document titled Breeding Riparian Songbird Monitoring along the Lower Mokelumne River, 2004-2010]	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.
311	444	[ATT 85: Article titled An Evaluation of Treatments to Reduce Mortality from Coagulated Yolk Disease in Hatchery-Produced Chinook Salmon]	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.
311	445	[ATT 86: Article titled Association of Fall-Run Chinook Salmon Redds with Woody Debris in the Lower Mokelumne River, California]	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.
311	446	[ATT 87: Article titled Diet of Juvenile Fall-run Chinook Salmon in the Lower Mokelumne River, California]	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.
311	447	[ATT 88: Article titled Comparison of Diets of Prickly Sculpin and Juvenile Fall-Run Chinook Salmon in the Lower Mokelumne River, California]	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.
311	448	[ATT 89: Article titled Seasonal Feeding Habits, Growth, and Movement of Steelhead Trout in the Lower Mokelumne River, California]	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.
311	449	[ATT 90: Article titled Application of a 2D Hydrodynamic Model to Design of Reach-Scale Spawning Gravel Replenishment on the Mokelumne River, California]	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.

Letter No.	Comment No.	Comment	Response
311	450	[ATT 91: Article titled Evaluation of a Spawning Habitat Enhancement Site for Chinook Salmon in a Regulated California 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.
311	451	[ATT 92: Article titled Predicting benefits of spawning-habitat rehabilitation to salmonid (<i>Oncorhynchus</i> spp.) fry production in a regulated California 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.
311	452	[ATT 93: Article titled Spawning habitat rehabilitation – I. Conceptual approach and methods]	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.
311	453	[ATT 94: Article titled Spawning habitat rehabilitation – II. Using hypothesis development and testing in design, Mokelumne River, California, U.S.A.]	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.
311	454	[ATT 95: Article titled Use of habitat heterogeneity in salmonid spawning habitat rehabilitation design]	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.
311	455	[ATT 96: Article titled Effects of Gravel Augmentation on Macroinvertebrate Assemblages in a Regulated California 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.
311	456	[ATT 97: Article titled Sediment and nutrient dynamics following a low-head dam removal at Murphy Creek, California]	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.
311	457	[ATT 98: Article titled Sediment budget for salmonid spawning habitat rehabilitation in a regulated 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,

Letter No.	Comment No.	Comment	Response
			General Comments, for the approach to addressing attachments to comments.
311	458	[ATT 99: Article titled Salmon, Wildlife, and Wine: Marine-Derived Nutrients in Human-Dominated Ecosystems of Central California]	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.
311	459	[ATT 100: Article titled Introduced Yellowfin Goby, <i>Acanthogobius flavimanus</i> : Diet and Habitat Use in the Lower Mokelumne River, California]	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.
311	460	[ATT 101: Article titled Use of slope creation for rehabilitating incised, regulated, gravel bed rivers]	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.
311	461	[ATT 102: Article titled Aquatic Macrophyte Encroachment in Chinook Salmon Spawning Beds: Lessons Learned from Gravel Enhancement Monitoring in the Lower Mokelumne River, California]	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.
311	462	[ATT 103: Article - Construction Constraints for Geomorphic-Unit Rehabilitation on Regulated Gravel-Bed Rivers (2008)]	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.
311	463	[ATT 104: Article - State-dependent Life History Models in a Changing (and Regulated) Environment: Steelhead in the California Central Valley (2009)]	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.
311	464	[ATT 105: Article titled Large Wood Aids Spawning Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) in Marginal Habitat on a Regulated River in California]	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.

Letter No.	Comment No.	Comment	Response
311	465	[ATT 106: Article titled Linking Geomorphic Changes to Salmonid Habitat at a Scale Relevant to Fish]	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.
311	466	[ATT 107: Article titled Contrasts in Habitat Characteristics and Life History Patterns of Oncorhynchus mykiss in California's Central Coast and Central Valley]	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.
311	467	[ATT 108: Article titled The influence of flood cycle and fish predation on invertebrate production on a restored California floodplain]	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.
311	468	[ATT 109: Article titled Lower Mokelumne River Project Water Quality and Resource Management Program Status Report October 2004]	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.
311	469	[ATT 110: Document titled Lower Mokelumne River Project Joint Settlement Agreement Ten-Year Review]	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.
311	470	[ATT 111: Document titled Central Valley Salmon and Steelhead Marking/Coded-wire Tagging Program]	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.
311	471	[ATT 112: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2019]	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.
311	472	[ATT 113: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2018]	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,

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311	473	[ATT 114: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2017]	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.
311	474	[ATT 115: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2016]	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.
311	475	[ATT 116: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2015]	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.
311	476	[ATT 117: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2014]	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.
311	477	[ATT 118: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2013]	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.
311	478	[ATT 119: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2012]	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.
311	479	[ATT 120: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement and Ocean Harvest in 2011]	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.

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311	480	[ATT 121: Document titled Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement and Ocean Harvest in 2010]	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.
311	481	[ATT 122: Article - Aquatic Macrophyte Encroachment in Chinook Salmon Spawning Beds: Lessons Learned from Gravel Enhancement Monitoring in the Lower Mokelumne River (2008)]	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.
311	482	[ATT 123: Article - Association of Fall-run Chinook Salmon Redds with Woody Debris in the Lower Mokelumne 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.
311	483	[ATT 124: Article titled Chinook Salmon Length/Fecundity: A Regression Model for the Mokelumne River, California]	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.
311	484	[ATT 125: Article titled Effects of River Regulation on Water Quality in the Lower Mokelumne River, California]	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.
311	485	[ATT 126: Article - Habitat Alterations And A Nonnative Predator, the Striped Bass, Increase Native Chinook Salmon Mortality In The Central Valley California (2016)]	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.
311	486	[ATT 127: Article - Introduced Yellowfin Goby: Diet and Habitat Use in the Lower Mokelumne River (2007)]	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.
311	487	[ATT 128: Article - Managed Meta Populations: Do Salmon Hatchery Sources Lead to In-river Sinks in Conservation (2012)]	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,

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311	488	[ATT 129: Article titled Migration characteristics of hatchery and natural-origin Oncorhynchus mykiss from the lower Mokelumne River, California]	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.
311	489	[ATT 130: Article titled Movement of Sacramento sucker, Catostomus occidentalis, and hitch, Lavinia exilicauda, during a spring release of water from Camanche Dam in the Mokelumne River, California]	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.
311	490	[ATT 131: Article - Seasonal Feeding Habits, Growth, and Movement of Steelhead Trout in the Lower Mokelumne River (2002)]	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.
311	491	[ATT 132: Article titled Seasonal Rearing Habitat in a Large Mediterranean-Climate River: Management Implications at the Southern Extent of Pacific Salmon (ONCORHYNCHUS SPP.)]	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.
311	492	[ATT 133: Article titled Shade affects magnitude and tactics of juvenile Chinook salmon antipredator behavior in the migration corridor]	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.
311	493	[ATT 134: Article - Spawning Habitat Rehabilitation II Using Hypotheses Development and Testing in Design, Mokelumne River (2004)]	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.
311	494	[ATT 135: Article titled Water Quality Response to a Pulsed-Flow Event on the Mokelumne River, California]	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.

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311	495	[ATT 136: Article titled Survey of Falcons, Kites, Hawks and Owls in the Lower Mokelumne River Watershed, Sacramento and San Joaquin Counties, California]	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.
311	496	[ATT 137: Article titled Lower Mokelumne River Riparian Bird Surveys]	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.
311	497	[ATT 138: Article titled Non-Native Invasive Plant Communities along the Lower Mokelumne River, California]	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.
311	498	[ATT 139: Article titled Lower Mokelumne River Amphibian and Reptile Inventory]	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.
311	499	[ATT 140: Article titled Lower Mokelumne River Small Mammal Inventory]	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.
312	1	Upon reviewing the Sacramento/Delta Draft Staff Report, it came to my attention that the literature covered in “Chapter 3: Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations” did not include any literature beyond the year 2017. A significant amount of resources goes into the study of flow-effects on salmon in the Central Valley, and therefore, many highly relevant published contributions have been made since 2017. These publications include actionable information that is relevant to the Bay-Delta Plan Update, and I recommend that Water Board staff familiarize themselves with them to the extent possible. I am including below 11 publications that fall in this category, but this list is in no way exhaustive. These and other publications should allow SWB staff to update flow prescriptions in Table 3.4-7 to reflect the most recent science on	The literature references provided by the commenter have been reviewed and incorporated as appropriate into Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations of the final Staff Report. Please see Common Response 3.1, Fish Protection, for the discussion on use of best available science and process for updates to literature in Chapters 3 and 4.

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		the topic. Buchanan, R. A., E. Buttermore, and J. Israel. 2021. Outmigration survival of a threatened steelhead population through a tidal estuary. <i>Canadian Journal of Fisheries and Aquatic Sciences</i> 78:1869-1886. dx.doi.org/10.1139/cjfas-2020-0467 Friedman, W. R., B. T. Martin, B. K. Wells, P. Warzybok, C. J. Michel, E. M. Danner, and S. T. Lindley. 2019. Modeling composite effects of marine and freshwater processes on migratory species. <i>Ecosphere</i> 10. dx.doi.org/10.1002/ecs2.2743 Hance, D. J., R. W. Perry, A. C. Pope, A. J. Ammann, J. L. Hassrick, and G. Hansen. 2022. From drought to deluge: spatiotemporal variation in migration routing, survival, travel time and floodplain use of an endangered migratory fish. <i>Canadian Journal of Fisheries and Aquatic Sciences</i> 79:410-428. dx.doi.org/10.1139/cjfas-2021-0042 Hassrick, J. L., A. J. Ammann, R. W. Perry, S. N. John, and M. E. Daniels. 2022. Factors Affecting Spatiotemporal Variation in Survival of Endangered Winter-Run Chinook Salmon Out-migrating from the Sacramento River. <i>North American Journal of Fisheries Management</i> 42:375-395. dx.doi.org/10.1002/nafm.10748 Henderson, M. J., I. S. Iglesias, C. J. Michel, A. J. Ammann, and D. D. Huff. 2019. Estimating spatial-temporal differences in Chinook salmon outmigration survival with habitat- and predation-related covariates. <i>Canadian Journal of Fisheries and Aquatic Sciences</i> 76:1549-1561. dx.doi.org/10.1139/cjfas-2018-0212 Michel, C. J. 2018. Decoupling outmigration from marine survival indicates outsized influence of streamflow on cohort success for California's Chinook salmon populations. <i>Canadian Journal of Fisheries and Aquatic Sciences</i> 76:1398-1410. dx.doi.org/10.1139/cjfas-2018-0140 Michel, C. J., J. J. Notch, F. Cordoleani, A. J. Ammann, and E. M. Danner. 2021. Nonlinear survival of imperiled fish informs managed flows in a highly modified river. <i>Ecosphere</i>	

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		12(5):e03498. dx.doi.org/10.1002/ecs2.3498 Munsch, S. H., C. M. Greene, R. C. Johnson, W. H. Satterthwaite, H. Imaki, P. L. Brandes, and M. R. O'Farrell. 2020. Science for integrative management of a diadromous fish stock: interdependencies of fisheries, flow, and habitat restoration. <i>Canadian Journal of Fisheries and Aquatic Sciences</i> 77:1487-1504. dx.doi.org/10.1139/cjfas-2020-0075 Notch, J. J., A. S. McHuron, C. J. Michel, F. Cordoleani, M. Johnson, M. J. Henderson, and A. J. Ammann. 2020. Outmigration survival of wild Chinook salmon smolts through the Sacramento River during historic drought and high water conditions. <i>Environmental Biology of Fishes</i> 103:561-576. dx.doi.org/10.1007/s10641-020-00952-1 Perry, R. W., A. C. Pope, J. G. Romine, P. L. Brandes, J. R. Burau, A. R. Blake, A. J. Ammann, and C. J. Michel. 2018. Flow-mediated effects on travel time, routing, and survival of juvenile Chinook salmon in a spatially complex, tidally forced river delta. <i>Canadian Journal of Fisheries and Aquatic Sciences</i> 75:1886-1901. dx.doi.org/10.1139/cjfas-2017-0310 Sturrock, A. M., S. M. Carlson, J. D. Wikert, T. Heyne, S. Nusslé, J. E. Merz, H. J. W. Sturrock, and R. C. Johnson. 2020. Unnatural selection of salmon life histories in a modified riverscape. <i>Global Change Biology</i> 26:1235-1247. dx.doi.org/10.1111/gcb.14896	
313	1	During October 2013 a Water Resources Board public hearing was held in Merced, CA. Key testimony was provided by MID and it focused on the points of: timed water releases depending on downstream water temperature; converting tailings from dredge legacy gold mining into riverbank gravel for salmon habitat; and controlling invasive striped bass and black bass. With MID's involvement, dredge mining tailings have already been successfully converted into riverbank gravel for salmon habitat along a test section of the Merced River. Dredge mining created deep holes along the river. These holes serve as habitat for invasive species. A page one article in the Nov. 14, 2018 AgAlert publication (Voluntary flow agreements gain	Please see Common Response 1.1, General Comments, for a response to comments on other projects and 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 such measures. Please also see Section 7.21 of the 2023 draft Staff Report, Habitat Restoration and Other Ecosystem Projects, for an analysis of the potential environmental impacts of complementary non-flow projects, including predatory fish control measures.

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		momentum) provided findings by Andrea Fuller, Sr. Biologist of fish consulting firm FISHBIO. Her findings, not surprisingly, were that half of salmon fry in Central Valley rivers are eaten by invasive bass. This raises the point of electro-fishing to remove invasive bass in Central Valley waterways. Consider that public agencies in the S.F. Bay Area use this method with success. Recently, I asked public agency practitioners of this technique if it would work in Central Valley rivers during lower flow times of summer months. Their answer was unequivocally "Yes". However, they added that current regulations may prohibit the practice. In summary, setting arbitrary flow rates from reservoirs, is not the answer to protect fish and provide water for farming communities. Please give fair consideration to the MID plan already shared in detail with the Board. Additionally, please work to obtain variances to current regulations that prohibit electrofishing on Central Valley waterways. In doing this, along with supporting voluntary agreements with irrigation districts, the Board will be working to protect fish, and coincidentally ensure adequate water for Central Valley farming communities.	
315	1	We urge the Water Board to protect the Sacramento River and its tributaries. Please protect the health of San Francisco Bay and the Delta by requiring adequate flow in these rivers. We are deeply disturbed that the agency that supplies our small town with water, the San Francisco PUC, along with the BAWSCA, are trying to sabotage 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.
315	2	California's environmental resources are what makes this state a great place to live and to recreate. Governor Newsome's political ambitions have translated to a slavish adherence to the profit motives of developers and huge agricultural interests, at the expense of our environment. Big ag gets huge subsidies in the form of cheap/free water. This isn't family farms struggling to get by. It's billion-dollar corporations with political connections. And real estate speculators are getting huge subsidies because they are not required to consider how their projects get the water they need.	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 proposed Voluntary Agreements do nothing more than extend these huge subsidies, while requiring NO ACTION to protect endangered species or the health of our fresh water systems. Please act in the interests of our precious, vulnerable environmental resources. Please ensure adequate flows, based on science, in the Sacramento River and its tributaries.	
316	1	One hundred and thirty years after its founding, MID still relies on the foresight of its forefathers - providing electric service to more than 132,000 customers, irrigation water to more than 3,100 agricultural customers, and treating and delivering drinking water to the City of Modesto. We continue to look for ways to enhance water and power service, protect our senior water rights, diversify power resources, and monitor and respond accordingly to upward regulatory pressures of the water and power industries. Throughout our existence, as a publicly owned utility, MID has worked to deliver the highest value of service at the lowest possible cost. Unfortunately, the DRSED II does not adequately reflect the balanced, broad spectrum of habitat, science, and adaptive management approaches contained in the numerous voluntary agreements and violates the California Environmental Quality Act ("CEQA") among other applicable laws. Approval of the proposed water quality control plan amendments ("Project") will make it impossible for MID to fulfill its mission. As explained in greater detail below, MID objects to the Project approval.	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.
316	2	COMMENTS [Footnote 3: Attached hereto and submitted herewith, MID also specifically references and incorporates the entire Phase I Administrative Record as well as relevant legal filings on two separate flash drives labeled State Water Board Cases, JCCP 5013 Administrative Record and Index of Cases.] The DRSED II is so Technically Flawed, it Does not Represent the Best Available Scientific Information Upon Which to Render a Decision Regarding Water Quality Objectives. As is discussed in even greater detail in the Tuolumne River Partners' Technical Comments ("Technical Comments") to the DRSED II jointly submitted by MID, the Turlock Irrigation District	Please see Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, of the 2023 draft Staff Report for a review and summary of the best available science on flow needs for the protection of fish and wildlife beneficial uses. Also see Common Response 3.1, Fish Protection, regarding the use of the best available science in the Staff Report. The SalSim model is not useful for predicting long-term salmon population changes because of various limitations which the State Water Board discovered while using the model. The State Water Board found that the treatment of two of the most important salmon habitat attributes related to flow, water temperature and floodplain inundation, are not represented by

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		("TID"), and the City and County of San Francisco through its Public Utilities Commission ("SFPUC") [Footnote 4: In addition to these comments, MID also joins in all written and orally submitted comments of the San Joaquin Tributaries Authority or its predecessor agency, the San Joaquin River Group Authority, of which MID is a member agency.], the DRSED II does not provide any measure of credible scientific evidence or analyses to justify adoption of the unimpaired flow ("UIF") regime as envisioned by the State Water Resources Control Board ("Board") staff. In the Board's first foray into this dubious endeavor, accomplished by improperly and illegal segmenting the whole project into two separate proceedings, MID was an active participant in all available opportunities of the Board's process for considering the Amendment to the Water Quality Control Plan for the San Francisco Bay/Sacramento- San Joaquin Delta Estuary and Supporting Draft Revised Substitute Environmental Document (September 2016) ("DRSED I"). Shockingly, during the proceedings for DRSED I, when the Board realized that its own scientific modeling results showed the Board staffs ill-conceived UIF regime only resulted in a projected increase of approximately 1,100 salmon, the Board and its staff inexplicably began distancing from SalSim --the very model the Board widely touted as the best available science. This distancing has not only continued but has now evolved in the DRSED II to Board staff having zero salmon population evidence or science because it has scuttled SalSim. The SalSim model is the sole quantitative tool relating to fish populations - the purported primary goal and motivation for the Board staff's recommended actions. Accordingly, no evaluation of San Joaquin River basin salmon success through the Delta has been provided by the Board in the DRSED II. This is a major deficiency because the DRSED I only evaluated San Joaquin River salmon to Vernalis and not into and through the Delta. The Board should have provided an analysis that evaluated the combined environmental effects of DRSED I and DRSED II on San Joaquin River salmon survival and success into and through the Delta- but failed to do so. Moreover, the fact that the Board and its staff continue to ignore the evidence of SalSim, which demonstrates quantitatively that more flow is not always better for fish, is arbitrary and capricious and a violation of CEQA.	the model in a manner that is consistent with current scientific information. Because of these limitations, the State Water Board used other analytical methods to evaluate the effects of flow on aquatic species. These methods were supported by peer reviewed Scientific Basis Reports. Also see Common Response 1.2, Water Quality Control Planning Process, regarding the relationship to the 2018 lower San Joaquin River and southern Delta salinity update to the Bay-Delta Plan.

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316	3	Unfortunately, the DRSED II is as deficient legally as it is scientifically. As explained in greater detail below, the DRSED II violates a multitude of State and federal laws and requirements, including, but not limited to, CEQA, the Porter-Cologne Water Quality Act ("Porter-Cologne"), California Water Code, California Constitution, federal Endangered Species Act ("ESA"), federal Clean Water Act, and United States Constitution.	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.
316	4	The DRSED II Fails to Appropriately Define California Water Rights. The DRSED II defines a water right as "a legal permission to use a reasonable amount of water for a beneficial use such as domestic, irrigation, power, municipal, mining, industrial, fish and wildlife preservation and enhancement, aquaculture, recreational, stock watering, water quality, frost protection, or heat control." (DRSED II, at 1-115.) In fact, the Board choosing to ignore California's statutory and regulatory water rights structure and relevant case law to craft its own definition is well beyond the Board's powers and authorities given to them by the Legislature and in direct conflict with the Constitution. "Once rights to use water are acquired, they become vested property rights" and "cannot be infringed by others or taken by governmental action without due process and just compensation." (United States v. State Water Resources Control Bd. (1986) 182 Cal.App.3d 82, 101; see Ivanhoe Irrigation Dist. V. All Parties & Persons (1957) 47 Cal.2d 597, 670-671 [once acquired, a water right "is a property right and protected by the due process clauses of both the state and federal constitutions"], revd. On other grounds in Ivanhoe Irrigation Dist. V. McCracken (1958) 357 U.S. 275,291; Stanislaus Water Co. v. Bachman (1908) 152 Cal. 716, 725-727 ["water in its natural situation upon the surface of the earth, whether as a flowing stream, as a lake or pond, or as percolations in the soil, is real property"]; Fullerton v. State Water Resources Control Bd. (1979) 90 Cal.App.3d 590, 598 ["Although there is no private property right in the corpus of the water while flowing in the stream, the right to its use is classified as real property"].) Courts have recognized the distinction between a water right and a legal permission to use water; the former is a property right and the latter is a	The commenter's definition of water right and the definition of water right in the Staff Report are not in conflict. The definition referenced by the commenter, in Chapter 1, Executive Summary, of the Staff Report, is repeated in Chapter 2, Hydrology and Water Supply, Section 2.7, Existing and Future Water Rights in the Sacramento/Delta Watershed. There, the Staff Report elaborates that "A riparian water right generally provides a right to use the natural flow of a waterbody on riparian land . . ." Additional general discussion of water rights is provided in Section 5.2.2, Water Rights. For the purposes of the Staff Report, informing the public about the environmental impacts and economic effects of the update to the Bay-Delta Plan, calling a water right a "legal permission" is sufficient to describe, in general terms, what a water right is for someone without prior knowledge. By further expanding on the types of water rights in Section 2.7, Existing and Future Water Rights in the Sacramento/Delta Watershed, and Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, the Board adequately defines water rights. The comment also fails to recognize the distinction, outlined in <i>Gin S. Chow v. City of Santa Barbara</i> (1933) 217 Cal. 673, between a taking under the due process clauses of the 5th and 14th Amendments, and the valid exercise of the state's police power under California Constitution Article X, Section 2 to regulate the use and enjoyment of a property right for a public benefit. As explained by Justice Shenk, "[Article X, Section 2] is a legitimate exercise of the police power of the state . . . It is the highest and most solemn expression of the people of the state in behalf of the general welfare." (Chow, 217 Cal. at p. 701.) The State Water Board, under its authority to protect water quality under the federal Clean Water Act and the state Porter-

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		license. (See Davis v. Martin (1910) 157 Cal. 657 ["No length of time of use by permission will gain a title or right by prescription"]; Heinke! V. McAllister (1952) 113 Cal.App.2d 500 [permission to use water from the owner's property was a neighborly arrangement only and did not create a permanent right by irrevocable license or prescription]; see generally, Richardson v. Franc (2015) 233 Cal.App.4th 744, 758-759 ["a license does not create or convey any interest in the real property; it merely makes lawful an act that otherwise would constitute a trespass"].) The definition in the DRSED II incorrectly conflates a property right with a permissive use, and the error must be corrected. This misleading attempt to act as though water rights are merely permissive licenses which can be revoked or altered is not a mere misstatement. By refusing to correctly identify water rights as property rights, the DRSED II omits analyses and discussions of the due process that must be followed, the findings that would inevitably have to be made in a water rights hearing process by the Board under the California Water Code and all that is entailed for the DRSED II to be implemented, thereby thwarting the main purpose of this CEQA process - informing the public of the true nature and impact of the UIF regime.	Cologne Act, is undertaking water quality control planning. 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. While the Board may consider implementation procedures other than, or in addition to curtailment regulations, it is likely that the State Water Board will develop and adopt regulations necessary to implement portions of the Plan updates, including regulations to administer the water right priority system with applicable Bay-Delta Plan requirements and commitments. 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. Those requirements will include monitoring and reporting of diversions and related information needed to inform curtailment decisions, which may be in addition to other required monitoring and reporting.
316	5	The DRSED II Fails to Comply with CEQA. The Board's adoption of the amendments described in the DRSED II is a discretionary action of a state agency and, thus, subject to CEQA. Because the water quality control planning program is a certified regulatory program under CEQA, the Board prepared the DRSED II in place of an environmental impact report. (Cal. Code Regs., tit. 14, §15251; Cal. Code Regs., tit. 23, §3775.) Importantly, the environmental review remains "subject to the broad policy goals and substantive standards of CEQA." (City of Arcadia v. State Water Resources Control Board (2006) 135 Cal.App.4th 1392, 1442 ("Arcadia").) Moreover, CEQA demands its environmental documents be written in plain language so that decisionmakers and the public can rapidly understand the documents. (Cal. Code Regs., tit. 14, §15140.) The DSRED II is a far cry from this plain language requirement and is	Please see Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion of the Project in the context of CEQA and the use of the Staff Report to meet CEQA requirements. As identified by the commenter, under CEQA, environmental documents must be "written in plain language so that decisionmakers and the public can rapidly understand the documents." Given the complexities of the Bay-Delta Plan and the science supporting the various alternatives, the State Water Board has made every attempt to present information in plain language as clearly formatted as possible. CEQA recommends summarizing information to reduce paperwork and to make the environmental documents understandable. (See 14 Cal. Code Regs § 15147.) Throughout the 2023 draft Staff Report, the State Water Board attempted to do this by providing: an Executive

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		so fundamentally flawed it violates CEQA. (Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 435 ("Vineyard Area Citizens") (citing Cal. Pub. Resources Code §21168.5).) The Board's adoption of the DRSED II will be reviewed de novo to ascertain whether the Board has scrupulously enforced the legislatively mandated CEQA requirements. (Id.)	Summary to introduce and summarize the project, including presenting tables summarizing impact and mitigation measures to different resources (see Tables 1-1 and 1-2 in 2023 draft Staff Report Chapter 1, Executive Summary); overviews of modeling tools used in the Staff Report, appendices that contain descriptions, methodologies and results for those tools, and lists of Staff Report chapters informed by those results in Table 7.1-1 of Section 7.1, Introduction, Project Description, and Approach to Environmental Analysis, of the Staff Report; outreach to California Native American Tribes, interested parties, and agencies as described in Chapter 11, Tribal Engagement, and Chapter 12, Public Participation; and summaries of the environmental and economic effects associated with each of the alternatives in Section 7.24, Alternatives Analysis, and Section 9.9, Modular Alternatives for Proposed VAs. Maps, charts, diagrams, and other means of presenting information graphically are also used throughout the Staff Report to enhance its clarity. (See 14 Cal. Code Regs § 15147; City of Fremont v San Francisco Bay Area Rapid Transit Dist. (1995) 34 Cal.App.4th 1780, 1787.) While CEQA guidelines suggest that draft Environmental Impact Reports (EIR) of unusual scope or complexity should normally be less than 300 pages, CEQA imposes no mandatory limit on the length of a draft EIR. (14 Cal. Code Regs. § 15141.) CEQA places a greater focus on adequacy and completeness of the analysis than on document length. (14 Cal. Code Regs. § 15003 (i).) Due to the highly technical and complex nature of the Sacramento/Delta update, the Staff Report contains a significant amount of information. This does not amount to a failure to comply with CEQA.
316	6	The purpose of the DRSED II is to give the public and government agencies the information needed to make informed decisions, thus protecting "not only the environment but also informed self-government." (In re Bay-Delta, (2008) 43 Cal. 4th 1143, 1162-63).) As a CEQA-equivalent document, the DRSED II must effectively disclose to the public the analytical route the agency traveled from evidence to action. (Topanga Assn. for a Scenic Community v. County of Los Angeles (1974) 11 Cal.3d 506, 515).) Further, the DRSED II must include detail sufficient to enable those who did not participate in its preparation to	Please see Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion of the Project in the context of CEQA and the use of the Staff Report to meet CEQA requirements. Please see Common Response 7.24, Alternatives Analysis, regarding analysis and description of the alternatives contained in the 2023 draft Staff Report.

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		understand and to consider meaningfully the issues raised by the proposed project, and must contain facts and analysis, not just bare conclusions or opinions. (Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal.3d 376,405 ("Laurel Heights"); Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn. (1986) 42 Cal.3d 929, 935.) As currently written, the DRSED II is woefully inadequate, and the Board has failed to meet its CEQA requirements.	
316	7	CEQA mandates the Board send a "notice of preparation" to the Office of Planning and Research and to each responsible and trustee agency, stating that an EIR will be prepared. (Cal. Code Regs., tit. 14, §15082(a).) This document, at a minimum, must include a description of the project, the locations of the project, and the probable environmental effects of the project in order to put the public and regulated community on notice about the Board's intended action. (Cal. Code Regs., tit. 14, §15082(a)(l).) Moreover, Porter-Cologne requires the Board to provide notice and a hearing before it may revise a water quality control plan. (Cal. Wat. Code, §13244; Cal. Wat. Code §13170 [making regional water board basin plan requirements applicable to the State Board].) The State Board provided notice of the Sacramento/Delta (i.e., Phase II) updates to the Bay-Delta Plan via the "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," dated January 24, 2012 ("Notice"). [Footnote 5: The Notice is attached hereto and specifically incorporated as a part of these comments and for submission into the DRSED II administrative record as Exhibit B [see Exhibit 3].] The Notice describes the project as a "review of potential modifications to current objectives included in the 2006 Bay-Delta Plan, the potential establishment of new objectives, and modifications to the program of implementation for those objectives" while expressly stating a separate substitute environmental document ("SED") will be prepared to address updates to the water quality objectives for the Lower San Joaquin River watershed and southern Delta. (Notice, at 6.) The	Please see the response to comment 316-8.

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		Notice describes the project location as "1) the watershed of the Bay-Delta, 2) the Trinity River watershed from which water is diverted into the watershed of the Bay-Delta, and 3) areas receiving water exported from the Bay-Delta." (Notice, at 6.) As the Notice was issued in 2012, it did not propose revisions or modifications to the later- adopted Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, December 12, 2018 ("2018 Bay-Delta Plan") which included, among other things, new flow objectives for the Lower San Joaquin River and the Stanislaus, Tuolumne, and Merced Rivers.	
316	8	Despite what is stated in the Notice, the DRSED II relies upon flows outside the project description, specifically flows from the Stanislaus, Tuolumne, and Merced Rivers in a manner that, if accurately described in the DRSED II, results in amendments to the 2018 Bay-Delta Plan that were never actually adopted or implemented. Specifically, the DRSED II proposes several revisions to the 2018 Bay-Delta Plan which were not covered by the Notice project description. First, the DRSED II proposes to revise the February-June Vernalis Base Flow Objective in the 2018 Bay-Delta Plan by moving the compliance point from Vernalis downstream and through the Delta. The adopted 2018 Bay-Delta Plan requires that 40% of unimpaired flow on the Stanislaus, Tuolumne, and Merced Rivers be maintained instream from February through June, and that a base flow of 800 cubic feet per second ("cfs") to 1,200 cfs be maintained at Vernalis on the San Joaquin River during the same time period. (2018 Bay-Delta Plan, at 15 [Table 3].) The DRSED II proposes to add an Inflow-Based Delta Outflow Objective that will require San Joaquin River flows be committed to Delta outflow year-round. (DRSED II, at 5-28-5-29.) To the extent this objective may require flows at Vernalis year-round for the purpose of meeting the Inflow-Based Delta Outflow Objective or the related and intertwined Narrative Delta Outflow Objective, it expands the Vernalis Base Flow Objective in the 2018 Bay-Delta Plan which only applies from February through June. This proposed expansion to the San Joaquin River flow requirements was not noticed and is not analyzed in the DRSED II. Additionally, to the extent Inflow-Based Delta Outflow Objective commits the 40% unimpaired flow of the Stanislaus, Tuolumne, and Merced Rivers to Delta outflow, it expands the reach of the unimpaired flow	The proposed Plan amendments do not modify any flow objectives promulgated for the San Joaquin tributaries in the 2018 LSJR/SD Bay-Delta Update. Please see Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, for a discussion of the inflow-based 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. If no flows are required outside the January-June time period, then no additional flows would be required for Delta outflow. Implementation of the inflow-based Delta outflow objective could not alter the upstream inflow requirements and thus would have no effect on the required inflows from the Lower San Joaquin River. Also see Common Response 1.2, Water Quality Control Planning Process, for a discussion of the State Water Board's consideration of the proposed Plan amendments in relation to the 2018 LSJR/SD Update to the Bay-Delta Plan.

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		objectives in the 2018 Bay-Delta Plan by adding a new compliance point (i.e., past Vernalis and through the Delta) that would divest water right holders on the Stanislaus, Tuolumne, and Merced Rivers of the ability to exercise dominion and control over regulatory releases or bypassed flows beyond Vernalis. (See, Cal. Wat. Code §7075.) This proposed change regarding the final compliance point for flow objectives on the Stanislaus, Tuolumne, Merced, and San Joaquin Rivers was not noticed, and the environmental and economic impacts are not analyzed in the DRSED II, as is required by CEQA and Cal. Wat. Code §13241.	
316	9	The DRSED II also proposes revisions to the program of implementation ("POI") in the 2018 Bay-Delta Plan that were not covered by the Notice. The POI in the 2018 Bay-Delta Plan allows for the 40% unimpaired flow objective on the Stanislaus, Tuolumne, and Merced Rivers to be adaptively adjusted between 30% and 50% on two conditions: (1) the change will be sufficient to support and maintain the natural production of viable native San Joaquin River watershed fish populations migrating through the Delta, and (2) the change will meet any existing biological goals. (2018 Bay-Delta Plan, at 26.) The DRSED II proposes additional grounds for adjusting flows between the 30% and 50% range. Specifically, the DRSED II proposes a Narrative Delta Outflow Objective "[t]o help inform implementation of the numeric Delta outflow objective," meaning the Inflow-Based Outflow Objective. (DRSED II, 5-28.) To the extent the Narrative Delta Outflow Objective could be used to implement the Inflow-Based Delta Outflow Objective by changing the inflow requirements at Vernalis, it adds a new basis for adjusting the 30% to 50% unimpaired flow objective on the Stanislaus, Tuolumne, and Merced Rivers, i.e., noncompliance with the Narrative Delta Outflow Objective (which covers all native anadromous fish, estuarine fish, and aquatic species populations rearing in or migrating through the Bay-Delta estuary, not just San Joaquin River native fish populations covered by the narrative objective in the 2018 Bay-Delta Plan). (DRSED II at 5-28.)	Please see the response to comment 316-8.
316	10	The failure to prepare and circulate a proper notice that complies with CEQA's mandates has resulted in a fundamentally flawed document. Had the Board circulated a proper notice, the	Please see the response to comment 316-8. The 2009 Notice of Preparation and 2012 Supplemental Notice of Preparation provide proper notice for the Sacramento/Delta Updates to the

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		responsible and trustee agencies would have had 30 days to provide the Board with a response that identifies significant environmental issues, reasonable alternatives, and mitigation measures that those agencies "will need to have explored in the draft EIR." (Cal. Code Regs., tit. 14, §15082(b)(1)(a).) The regulations recognize that this dialogue may result in a draft document that "need[s] to be revised or expanded to conform to [those] responses" (Cal. Code Regs., tit. 14, §15082(a)(4).) In this case, the illegal Notice has prohibited responsible and trustee agencies from providing responses prior to and/or during the preparation of the DRSED II. This lack of communication has deprived the public of its right to meaningful participation and informed decision-making resulting in a fatally flawed impact analysis, an insufficient alternatives analysis, and a legally and scientifically insufficient document.	Bay-Delta Plan. No revisions are proposed to the 2018 LSJR/SD Plan Update.
316	11	The DRSED II's Failure to Consider a Range of Reasonable Alternatives Violates CEQA. The DRSED II must consider a reasonable range of alternatives which could feasibly attain the basic objectives of the proposed project. (Friends of Eel River v. Sonoma County Water Agency (2003) 108 Cal.App. 411, 859, 873 ("Friends of Eel River"); see also, Cal. Code Regs., tit. 14, §15126(d).) Although environmental review is not required to analyze every possible alternative, CEQA demands the DRSED II analyze a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. (Preservation Action Counsel v. City of San Jose (2006) 141 Cal.App.4th 1336, 1354.) In fact, the DRSED II's discussion must focus on "alternatives capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly." (Friends of Eel River, supra, (2003) 108 Cal.App. 411 at 873.) Shockingly, the DRSED II does not consider, but should have, an alternative that includes both additional flows coupled with non-flow measures such as habitat improvements. Such an alternative would clearly eliminate "any significant adverse environmental effects or reduce them to a level of insignificance" while attaining the project objectives in the balanced approach envisioned and	Both the proposed Plan amendments described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, and the proposed VAs described in Chapter 9, Proposed Voluntary Agreements, of the Staff Report include a combination of flow and non-flow measures. All of the alternatives include non-flow measures, as described in Section 7.2, Description of Alternatives. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the non-flow measures included in the revised proposed Plan amendments, and see Common Response 7.24, Alternatives Analysis, on the range of feasible alternatives.

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		required by Porter Cologne for adopting water quality plans. The DRSED II' s analysis is woefully inadequate, and thus illegal, as it completely ignores a hybrid alternative combining both flow and non-flow measures that still attain the stated objectives.	
316	12	The DRSED II should have also considered an alternative that fully protects the increased San Joaquin River flows imposed by the 2018 Bay-Delta Plan (i.e., Phase I) from February 1 through June 30 from export related effects to juvenile salmon in the interior Delta. In particular, such an alternative should focus on outmigrating juvenile salmonids that are intended to be protected by the 2018 Bay-Delta Plan Lower San Joaquin River flow objectives. Alternative 4 that purportedly addresses interior Delta flows does not adequately protect juvenile salmonids in the spring nor does Alternative 4 ensure that the increased San Joaquin River flows imposed by the 2018 Bay-Delta Plan actually exit the Delta and reach San Francisco Bay. The Project, in fact, provides no protection whatsoever for outmigrating San Joaquin River juvenile salmonids in the spring and provides close to zero protection of increased San Joaquin River flows from export related effects. [Footnote 6: Attached hereto as Exhibit C [see ATT 4] and specifically referenced and incorporated herein and submitted concurrently and made a part of the DRSED II administrative record is an analysis prepared by Dr. Susan Paulsen (Exponent) regarding the fate of San Joaquin River flows entering the Delta from February 1 through June 30.] Dr. Paulsen's analysis demonstrates that a large percentage of the increased San Joaquin River flow from the 2018 Bay-Delta Plan will be exported from the Delta by the Central Valley Project and State Water Project and thus never reach San Francisco Bay under the proposed DRSED II Project. (See Exhibit C at 23 (on average 64% of San Joaquin River flows under the proposed project will be exported and only 5% of San Joaquin River flows will actually exit the Delta depending on water year type).) In dry and critically dry years, less than 1% of San Joaquin River flows under the proposed DRSED II Project, on average, will contribute to Delta outflow.	The commenter's suggestion is included in the proposed Plan amendments. Please see 2023 draft Staff Report Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, which includes an Inflow-Based Delta Outflow Objective with language stating that required inflows from the San Joaquin River as specified in the Bay-Delta Plan would be required as outflows.
316	13	The Board also continues to rely on the Delta Flow Criteria Report [Footnote 7: This document, and numerous others, is contained in the DRSED I Administrative Record that has been	The San Joaquin River flows provided pursuant to the Lower San Joaquin River flow objectives added in the 2018 Bay-Delta Plan amendment would be protected by the inflow-based Delta

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		submitted as a part of these comments for inclusion in the DRSED II Administrative Record. See footnote 2.] as the basis for its UIF proposal, but completely disregards the Report's recommendation that the Vernalis Inflow/Export (I/E) ratio be no lower than four (4) during the months of March through June when the increased San Joaquin River flows from the 2018 Bay-Delta Plan have the potential to push juvenile salmon through the Delta out to the ocean. The export restrictions proposed by the Board for its DRSED II Project only cover two months in the Spring and at a lower I/E ratio than that recommended by the Delta Flow Criteria Report. Thus, the DRSED II continues the status quo, which results in significant percentages of San Joaquin River Spring flow being exported south and very little San Joaquin River flow contributing to Delta outflow. These facts are in direct contradiction to the Board's assurances that the increased San Joaquin River flows from the 2018 Bay-Delta Plan will be protected from export related effects and that juvenile San Joaquin River salmon will have sufficient flow to facilitate outmigration to the ocean. The DRSED II does not foster informed decision-making as required by law because of staffs failure to consider such an alternative choosing instead to focus solely on an UIF regime regardless of the environmental costs, the economic costs, the dismal chance of actually achieving improved salmonid numbers, and the water not being put to a beneficial use and thus wasted in violation of laws and the Constitution.	outflow objective. Please see Common Response 1.1, General Comments, for information on the Delta Flow Criteria Report. 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.
316	14	The DRSED II Unlawfully Segments the Project in Violation of CEQA. The Board's decision to conduct a phased review of the amendments to the Bay-Delta Plan violated CEQA. CEQA Guidelines section 15165 provides, "[w]here ... a phased project is [] to be undertaken and where the total undertaking comprises a project with significant environmental effect, the lead agency shall prepare a single program [SED] for the ultimate project." (emphasis added.) Here, the Board divided the ultimate project of updating the Bay- Delta Plan into two phases but failed to prepare a single program SED to evaluate the overall impacts of the ultimate project that encompasses the entire Bay-Delta watershed - a violation of CEQA, plain and simple. (Aptos Council	Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of the State Water Board's consideration of the proposed Plan amendments in relation to the 2018 LSJR/SD Update to the Bay-Delta Plan.

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		v. Cnty. Of Santa Cruz (2017) 510 Cal.App.5th 266, 279; Nelson v. Cty. Of Kern (2010) 190 Cal.App.4th 252, 272.) CEQA defines "project" broadly as "an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is ... [a]n activity directly undertaken by any public agency." (Cal. Pub. Res. Code §21065.) The CEQA guidelines further define "project" as "the whole of an action," rather than as each individual component. (CEQA Guidelines, 14 Cal. Code Regs. §15378, subd.(a) (emphasis added); Cty. Of Ventura v. City of Moorpark (2018) 24 Cal.App.4th 377, 385.) These provisions must be "interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247, 259.) Here, "the whole of an action" is Phase I and Phase II combined, which covers the entire Bay-Delta watershed - not Phase I standing alone but contributing to Phase II in ways that are never analyzed, considered or disclosed but merely assumed and relied upon in the DRSED II.	
316	15	It is well-established that the Bay-Delta watershed is an interconnected ecosystem, and accordingly requires a holistic approach to science and planning. History demonstrates this fact as well, as the Bay-Delta Plan, first adopted in 1978 and as later amended in 1991, 1995, and 2006, has always been presented to the public and analyzed by the Board in a single rule making for the entire plan area, never previously segmenting the process by isolating a portion of the regulated area as the Board has done here. Indeed, the California Supreme Court has also acknowledged the interconnectedness of the Bay-Delta, stating, "[p]ast experience has shown that piecemeal efforts to address the Bay-Delta's problems have failed because those problems are interrelated and because conflicting interest groups and stakeholders can block actions that promote some interests at the expense of others." (In re Bay-Delta (2008) 432 Cal.4th 1143, 1165.) The Board itself acknowledges the Bay-Delta watershed's interdependence in its recent "Phase II Fact Sheet":	Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of the State Water Board's consideration of the proposed Plan amendments in relation to the 2018 LSJR/SD Update to the Bay-Delta Plan.

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		The Bay-Delta watershed is an inextricably linked ecosystem-from streams where native fish spawn through to the ocean. Chemical, physical and biological processes in the Bay and Delta are shaped by flows and associated processes that originate hundreds of miles upstream and all along the way. The reverse is also true, with the tributaries intricately linked to conditions in the Bay and Delta. Proposed changes to the Bay-Delta Plan are structured using a holistic ecosystem approach that connects nesting areas for anadromous fish with the Delta and ocean. Specifically, new year-round inflow requirements are proposed from the Phase II project area to the Delta. (emphasis added.)	
316	16	The Board's fundamental error in segmenting the Bay-Delta is further seen in the DSRED II, which now relies upon Phase I flows as part of the Phase II proposed regime, without ever analyzing, disclosing or even discussing and considering the whole of the action and the entire project. [Footnote 8: The attached map, specifically referenced and incorporated herein as Exhibit D [see ATT 5] and made a part of the DRSED II administrative record, identifying the overlap between the Phase I and Phase II boundaries clearly depicts the illegal segmentation and resultant illegal piecemealing of the entire project to obfuscate its environmental impacts in violation of CEQA.] Such conduct is illegal. (See Cal. Pub. Res. Code §21168.5; see also San Joaquin Raptor Rescue Center v. Cty. of Merced (2007) 149 Cal.App.4th 645, 662-63 [finding an EIR's conclusion (expanding mine operations would not increase water consumption) was not supported by substantial evidence, given the BIR's incompatible concession that expansion would increase production].) The DRSED II further relies upon and, in so doing, illegally and improperly attempts to amend the 2018 Bay-Delta Plan. Piecemealing is prohibited because it defers environmental analysis, masks the cumulative impacts of a project, and ignores the cumulative impacts of related foreseeable projects that should be considered together. (Laurel Heights, supra, 47 Cal.3d 376, 396.) Here, the DRSED II is clearly relying upon flows from the 2018 Bay-Delta Plan in its analysis and environmental review of the Project. In addition, the DRSED II will impose flow objectives in the same manner as Phase I but this time on certain	Flows that would be expected to result from the 2018 LSJR flow objectives were not included in modeling of the alternatives in the Sacramento/Delta Staff Report. Please see Section 6.2, SacWAM Model Assumptions, for more information on the modeling assumptions. Instead, the impacts of the 2018 LSJR/SD Update to the Bay-Delta Plan in combination with the proposed Sacramento/Delta updates were analyzed in Section 7.23, Cumulative Impact Analysis, Growth-Inducing Impacts, and Significant Irreversible Environmental Changes, of the 2023 draft Staff Report. Please see Common Response 1.2, Water Quality Control Planning Process, for a response to comments alleging piecemealing of the LSJR/SD and Sacramento/Delta processes to update the Bay-Delta Plan. Also see Common Response 7.23, Cumulative Impact Analysis, for responses to comments related to the consideration of the Lower San Joaquin River/southern Delta in the cumulative impact analysis.

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		tributaries in the Sacramento Valley. Environmental impacts from the DRSED II will be similar to impacts from the 2018 Bay-Delta Plan imposed on the three tributaries located in the San Joaquin River Valley. Thus, the 2018 Bay-Delta Plan and the DRSED II combined will have vastly greater impacts on the environment than piecemealed, separate analyses conducted in the DRSED I and DRSED IL For example, it is undisputed that the 2018 Bay-Delta Plan will have significant adverse impacts on agricultural resources (i.e., reduced crop acreage and conversion of farmland to non-agricultural uses), groundwater resources (i.e., less groundwater recharge), and service providers (i.e., need to obtain alternative sources of water). The DRSED II will increase these adverse impacts on agricultural resources, groundwater resources, and service providers in the Bay-Delta watershed and must be considered together. Here, the combined impacts of the 2018 Bay-Delta Plan and the DRSED II were never disclosed or analyzed by the Board and thus the Board's segmentation of the ultimate project impermissibly masked the cumulative impacts in its entirety on key components of the environment (i.e., agricultural resources, groundwater resources, and service providers.) [Footnote 9: Importantly, due to the overlap between phases I and II, see footnote 7, it is unclear whether a legally sufficient analysis of impacts to groundwater resources has occurred in this area, which contains a critically overdrafted basin as classified by the Department of Water Resource imposing even greater urgency under the Sustainable Groundwater Management Act and other applicable statutes and regulations.] For example, neither the Board, as decisionmakers, nor the public were informed as to the total reduction in crop acreage (and thus the potential for conversion of farmland to non-agricultural uses) caused by the 2018 Bay-Delta Plan and the DRSED II combined, nor were they informed on the total impacts to groundwater levels and drinking water supplies caused by the project in its entirety. This information was all critical and necessary to meet the CEQA standards of informed decision making and full public disclosure. (Laurel Heights, supra, 47 Cal.3d 376, 396; see also Bozung v. Local Agency Formation Com. (1975) 13 Cal.3d 263, 283-84.) [Footnote 10: In the DRSED II, the Board repeats many of the mistakes it made previously in the DRSED I and	

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		subsequent adoption of the 2018 Bay-Delta Plan. MID participated in the public process related to that entire process at every possible opportunity and includes with this comment letter the administrative record for those proceedings, as well as relevant legal filings. See, footnote 2.]	
316	17	The DRSED II Unlawfully Defers Development of Sacramento/Delta Biological Goals in Violation of CEQA As with the DRSED I and its Lower San Joaquin River biological goals, the Board in the DRSED II has deferred the development of the Sacramento/Delta biological goals to a later date in violation of CEQA. The DRSED II's proposed flow objectives (range of 45% to 65% UIF with a starting point of 55% UIF) will be implemented through "adaptive implementation." The Sacramento/Delta biological goals, however, will be the performance metrics/measures that will determine future adaptive implementation actions such as adjustments within the percent of UIF, flow shaping, and flow shifting. As the driver of future adaptive adjustments, the Sacramento/Delta biological goals will have direct and foreseeable indirect impacts on the environment resulting from changes to the volume and timing of flows on the Sacramento River and its tributaries as well as the Eastside Delta tributaries. The Board must analyze the entire adaptive implementation process for the DRSED II flow objectives in its CEQA analysis, which would include, at a minimum, the Sacramento/Delta biological goals. Without environmental review of the DRSED II flow objectives and their proposed adaptive implantation together with the Sacramento/Delta biological goals, the public and decisionmakers will not be provided the necessary information to evaluate the incremental environmental impacts from adaptive adjustments and to consider alternatives and mitigation that could lessen impacts.	Please see Common Response 1.3, Revised Proposed Plan Amendments, for a response to comments on biological goals.
316	18	The DRSED II Fails to Evaluate the Cumulative Impacts of the Project Together with the Delta Conveyance Project The Board considers the Delta Conveyance Project ("DCP") to be a project that has cumulative impacts but focuses exclusively on benefits to fish. The DRSED II contains no discussion that once the DCP is in place, the Board may require more UIF from the	The 2018 LSJR/SD Plan Update to the Bay-Delta Plan, Delta Conveyance Project (DCP) and other reasonably foreseeable probable future projects are discussed in Section 7.23.1.2, Cumulative Project List, of the 2023 draft Staff Report, and potentially significant cumulative impacts are identified in the cumulative impact analysis that follows in Section 7.23.1.3, Cumulative Impacts. The discussion includes a description of a

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		tributaries of the San Joaquin River, and now also the tributaries of the Sacramento River and Eastside of the Delta, to support salmon migration through the Delta and to keep salinity at bay. The Board, therefore, may impose the upper range of UIF on both the San Joaquin and Sacramento River system to mitigate the impacts of the DCP resulting in further detriment of agriculture, groundwater and service providers. None of these significant environmental impacts have been disclosed or analyzed in violation of CEQA. (See https://www.deltaconveyanceproject.com/planningprocess/california-environmental-quality-act/final-eir/final-eir-document.)	wide range of attributable incremental and cumulative impacts, including impacts to agricultural resources, utilities, fish, and other aquatic biological resources. Please refer to Common Response 7.23, Cumulative Impact Analysis, for responses to comments related to the consideration and analysis of cumulative impacts associated with the 2018 LSJR/SD Plan Update to the Bay-Delta Plan, DCP, and other reasonably foreseeable probable future projects. Section 7.23.1.3, Cumulative Impacts, of the 2023 draft Staff Report analyzes and discloses potential impacts resulting from implementation of the full adaptive range of numeric unimpaired flow requirements included in the proposed Plan amendments (45 to 65 percent) in combination with DCP, other reasonably foreseeable probable future projects, and the full adaptive range of unimpaired flow requirements included in the 2018 LSJR/SD Plan Update to the Bay-Delta Plan (30 to 50 percent). The analysis also takes into consideration the lower range of adaptive unimpaired flow requirements included in the 2023 draft Staff Report Low Flow Alternative (Alternative 2) (35 to 45 percent) and the higher range of unimpaired flow requirements included in the 2023 draft Staff Report High Flow Alternative (Alternative 3) (65 to 75 percent). As such, the 2023 draft Staff Report analysis is comprehensive in that it considers the full adaptive range of numeric unimpaired flow requirements that could be implemented in the San Joaquin River tributaries and Sacramento/Delta tributaries under existing and proposed Bay-Delta Plan provisions, as well as other alternatives described in the 2023 draft Staff Report. Section 4.4, Implementation of Water Quality Objectives for Fish and Wildlife Beneficial Uses, of the December 2025 Draft Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Watershed (December 2025 Draft Water Quality Control Plan) describes the existing and proposed implementation provisions that govern adaptive adjustments to numeric unimpaired flow requirements in the Bay-Delta watershed. Existing adaptive implementation provisions for the San Joaquin River tributaries are described in Section 4.4.1.2, Adaptive Methods for February through June Flows, and proposed provisions for adaptive implementation for the

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			Sacramento/Delta tributaries are described in Section 4.4.2.2, Adaptive Implementation, of the December 2025 Draft Water Quality Control Plan. These adaptive implementation provisions allow the State Water Board to authorize adjustments to flow requirements on a seasonal, annual, or long-term basis. In general, these provisions require that adaptive implementation be supported and informed by best available scientific information, including information produced through environmental monitoring conducted in support of Bay-Delta Plan implementation. There are no existing or proposed provisions that direct or allow the State Water Board to adjust unimpaired flow requirements as mitigation for the hydrologic impacts of future water supply projects such as DCP. However, the revised proposed Plan amendments direct the State Water Board to consider imposing requirements on new water supply projects to ensure that future authorizations for the diversion and use of water are consistent with and support the salmon protection, fish viability, inflow, inflow-based Delta outflow, and interior outflow objectives of the Bay Delta Plan.
316	19	The DRSED II Proposed Flow Objectives Violate Cal. Water Code §13241. California Water Code §13241 specifies that water quality objectives must "ensure the reasonable protection" of beneficial uses: - Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance.... - Beneficial uses for the San Joaquin and Sacramento River systems include municipal supply, agricultural supply, and groundwater recharge: - Municipal and Domestic Supply ("MUN")- Uses of water for community, military, or individual water supply. - Agricultural Supply ("AGR") - Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation	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 (Porter-Cologne Act) and the Clean Water Act, the State Water Board's consideration of beneficial uses and the factors listed in Water Code section 13241. The existing 2018 Bay-Delta Plan and regional water quality control plans covering portions of the Bay-Delta watershed provide reasonable protection for beneficial uses other than fish and wildlife. In response to the decline of several native aquatic species since the last time the Bay-Delta Plan was comprehensively updated, the State Water Board is in the process of updating the Plan to ensure the reasonable protection of fish and wildlife. While Water Code section 13241 requires the State Water Board to consider a set of factors and ensure the reasonable protection of beneficial uses when establishing or amending a water quality control plan, nowhere does it require that each individual water quality objective must protect all beneficial uses. Here, water quality objectives added or amended via the current process to update the Bay-Delta Plan will join a set of existing water quality objectives aimed at protecting other

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		(including leaching of salts), stock watering, or support of vegetation for range grazing. - Ground Water Recharge ("GWR") - Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers. The proposed flow objectives violate Cal. Water Code §13241 because they do not "ensure the reasonable protection" of the beneficial uses of municipal supply, agricultural supply, and groundwater recharge, and they do not ensure that reasonable quantity objectives be met for groundwater supply. The DRSED II acknowledges that the proposed flow objectives will harm these beneficial uses by reducing the amount of water available for agriculture. It also acknowledges, to an extent, a reduction in groundwater recharge, leading to a lowering of groundwater levels, which will affect the availability of groundwater for "municipal supply," in other words, the proposed flow objectives would cause groundwater levels to drop, individual wells to dry up and, as a consequence, deplete drinking water to individuals and communities, many of whom are disadvantaged. The proposed flow objectives would also have negative effects to the drinking-water supplies for numerous rural and urban areas including many DACs. Although the DRSED II does not fully describe or analyze all the multitude of harms it will cause to agriculture, individuals, DACs who rely on shallow drinking-water wells, and urban areas like Stockton-the absence of a full description is a violation of CEQA. The DRSED II says enough to leave no doubt the Board intends to harm these beneficial uses, that the harm will be significant, that agriculture will be hurt, and that both rich and poor will be left without a full supply of drinking water.	beneficial uses. As explained in Section 13.6, Public Trust and Water Code Section 13241 Analyses, the term "beneficial uses" as used in water quality control planning context differs from the term "beneficial uses" in a water right context. Under the Porter-Cologne Act, water quality objectives are established for the "reasonable protection of beneficial uses." Fish and wildlife beneficial uses require volumes of water achieved through setting minimum instream flows, as the water itself is habitat for aquatic species and that habitat is degraded through excessive diversion. Other uses, such as agricultural beneficial uses, do not require specific allocations of water. For example, Table 2 of the Bay-Delta Plan sets a salinity standard adequate to reasonably protect agricultural uses, ensuring water used for irrigation is not so salty that it will harm crops. Therefore, reasonable protection of water quality for fish and wildlife, while also ensuring protection of agricultural uses, does not involve analysis of competing water allocations. Nevertheless, this does not mean the State Water Board does not consider demand and supply needs for other beneficial uses when formulating or updating a water quality control plan. The State Water Board recognizes that providing instream flows for the environment necessarily results in less water available for other uses. Providing balanced protection of all beneficial uses of water is incredibly important and requires careful consideration, and the State Water Board is sensitive to supply impacts. Water supply, including supplies from the Sacramento/Delta watershed is evaluated extensively throughout the Staff Report. Chapter 6 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. Chapter 6 also includes a discussion on the flexibility that

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			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. Potential shifts in municipal water supply sources and a discussion of potential environmental impacts due to changes in hydrology on municipal water supply are discussed in Section 7.20, Utilities and Service Systems, and Chapter 8, Economic Analysis and Other Considerations, of the Staff Report. Additional analysis related to the revised proposed Plan amendments is contained in Section 13.7.20, Utilities and Service Systems and 13.8, Economic Analysis and Other Considerations, of the final Staff Report. See also Common Response 7.4, Agricultural Resources, for a discussion of potential impacts on agricultural resources that may result from changes in water supply under the Plan update, and Common Response 7.12.2, Groundwater and Sustainable Groundwater Management Act, for a discussion of impacts on groundwater recharge and groundwater levels in general. Finally, see Common Response 10.1, Economically Disadvantaged Communities, regarding analysis of potential effects on disadvantaged communities and small drinking water systems in the Delta.
316	20	The Board Has Failed to Undertake the Required Balancing Among Beneficial Uses. As specified under Cal. Water Code §§13241, et seq., the Board has a duty to protect all beneficial uses, including municipal and agricultural. "While the Board had a duty to adopt objectives to protect fish and wildlife uses and a program of implementation for achieving those objectives, in doing so the Board also had a duty to consider and protect all of the other beneficial uses to be made of water in the Bay-Delta, including municipal, industrial, and agricultural uses." (State Water Resources Control Board Cases (2006) 136 Cal.App.4th 674, 778.) When uses conflict, the Board must balance competing interests. (Id.). In undertaking the balancing, the Board must explain itself with sufficient	Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of the State Water Board's consideration of beneficial uses and the factors listed in Water Code section 13241 when setting water quality objectives.

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		specificity to ensure a court can properly review the Board's decision.	
316	21	... [W]e agree with the trial court that the Board failed to make necessary findings reflecting the balancing of interests between the domestic uses of the canal and the domestic uses of the export recipients in determining the "public interest." We recognize that such findings need not be stated with the formality required in a judicial proceeding but must be adequate enough to permit a reviewing court to determine whether they are supported by sufficient evidence or a proper principle and to apprise the parties as to the reason for the administrative action in order that they may decide whether, and upon what grounds, additional proceedings should be initiated. (United States. v. State Water Resources Control Bd., (1986) 182 Cal.App.3d 138, 142 (ellipsis, quotation marks, and citations omitted).) Here, there has been no balancing. On the contrary, the DRSED II has taken the position of salmon over everything-that water must be given to salmon no matter how small the benefit and how great the harm to other beneficial uses. Because Cal. Water Code §13241 requires the Board to try to protect all beneficial uses, rather than protect one to the detriment of all others, the Board has abused its discretion. If, as the Board asserts, "[f]ish species have not shown signs of recovery" in the more than 20 years since 1995, then it is reasonable to conclude that the flow objectives have not been successful. There is little reason to believe that proposed flow objectives will succeed when everything else has failed. The DRSED II all but acknowledges failure by: 1) noting the objectives will not be sufficient to attain the temperature objectives; 2) scuttling SalSim; and 3) failing to provide any analysis or salmonid population modeling to attempt to predict the flow objectives will increase the salmon population through the Delta.	The existing 2018 Bay-Delta Plan and regional water quality control plans covering portions of the Bay-Delta watershed provide reasonable protection for beneficial uses other than fish and wildlife. In response to declines of several native aquatic species since the last time the Bay-Delta Plan was comprehensively updated, the State Water Board is in the process of updating the Plan to ensure the reasonable protection of fish and wildlife. While Water Code section 13241 requires the State Water Board to consider a set of factors and ensure the reasonable protection of beneficial uses when establishing or amending a water quality control plan, nowhere does it require that each individual water quality objective must protect all beneficial uses. Here, water quality objectives added or amended via the current process to update the Bay-Delta Plan will join a set of existing water quality objectives aimed at protecting other beneficial uses. Please also see Common Response 1.2, Water Quality Control Planning Process, for further discussion of the State Water Board's consideration of beneficial uses during the water quality control planning process, and how the State Water Board analyzes the factors set forth in Water Code section 13241 when setting water quality objectives.
316	22	The Board also fails to balance the consequences of a reduction in surface water supply will affect the groundwater aquifer by simultaneously causing a reduction in recharge volume (from a reduction in deep percolation from the distribution system and agricultural fields) and an increase in groundwater pumping (to replace lost surface water supplies). The reduction in surface water supply would therefore affect entities that rely upon	By itself, the Staff Report does not encourage or require increased groundwater pumping to offset reductions in surface water supplies. The Staff Report acknowledges, however, that depletion of groundwater (excluding prolonged groundwater depletion from historically high pumping rates) may occur if the local response to reduction in surface water supplies is to increase groundwater pumping. Please see identified impacts to

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		groundwater as their principal source of drinking water by: 1) increasing the need to drill deeper wells to continue to access groundwater; 2) increasing groundwater pumping costs; 3) degrading groundwater quality; and 4) making groundwater completely unavailable in some areas after some period of continued unrestricted groundwater pumping. The people in the Central Valley should not be deprived of safe, reliable drinking water. This approach is clearly unbalanced and violates the letter and spirit of the California Water Code.	groundwater and their mitigation measures in Section 7.12.2, Groundwater. The State Water Board can ensure that the mitigation measures are implemented for actions within its authority, other mitigation measures are largely within the jurisdiction and control of other agencies or depend on how water users respond to changes in hydrology or water supply. Accordingly, the State Water Board cannot guarantee that measures will always be adopted or applied to fully mitigate potential impacts to groundwater levels (Impact GW-b) and groundwater quality (GW-a,f). Therefore, unless and until the mitigation measures (MM-GW-b and MM-GW-a,f) are fully implemented, the impacts remain potentially significant. 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.
316	23	The DRSED II Proposed Flow Criteria are Improper Determinations of Water Rights Rather than True Water Quality Objectives. Porter Cologne refers to "beneficial uses" and "water quality objectives", which are incorporated into a "water quality control plan". (Cal. Water Code §13241, §13050(g), (h), G).) These are the California equivalents of what the federal Clean Water Act refers to as "designated uses" and "water quality criteria", which are incorporated into "water quality standards." (Clean Water Act §303(c)(2)(A), 33 USC §1313(c)(2)(A); see Cal. Water Code §13372 (provisions of division apply when "consistent ... with the requirements for state programs implementing the Federal Water Pollution Control Act").) In accordance with the Clean Water Act, all new or revised water quality standards must be submitted to EPA, which can approve them or promulgate its own standard. (Clean Water Act §303(c)(2)(A), (c)(3), 33 USC §1313(c)(2)(A), (c)(3).) The DRSED II tacitly acknowledges its "objectives" are really determinations of water rights, and the Board must use its water right authority to make them. Importantly, neither the Clean Water Act nor Porter Cologne authorize the Board to condemn and commandeer water for the purposes of meeting water quality objectives through a Water Quality Plan. The Board has not conducted water rights hearings	The Bay-Delta Plan is developed and updated pursuant to the requirements of the State Porter Cologne Act and federal Clean Water Act for the Bay-Delta estuary and tributary watersheds. The Plan identifies beneficial uses of water in the Bay-Delta watershed, water quality objectives for the reasonable protection of those beneficial uses, and a program of implementation to achieve the objectives. (See Wat. Code, § 13000 et seq.) The primary beneficial uses protected by the objectives and program of implementation include municipal, industrial, agricultural, and fish and wildlife. The Plan includes flow dependent water quality objectives and implementation measures to protect these beneficial uses consistent with the Board's dual responsibilities to protect water quality and to administer water rights. Flow dependent water quality objectives include salinity levels, river flows, and Delta outflows. While the Board may consider implementation procedures other than, or in addition to curtailment regulations, it is likely that the State Water Board will develop and adopt regulations necessary to implement portions of the plan updates, including regulations to administer the water right priority system with applicable Bay-Delta Plan requirements and commitments. Both the Bay-Delta planning process and any subsequent regulation development provides notice and hearing.

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		or otherwise used its water rights authority to reach these water rights decisions. The DRSED II, in its entirety, relies on the assumption that the Board will, through unspecified future proceedings, declarations, regulations or other mechanisms, strip lawful water rights holders of their rights and unlawfully declare other legal beneficial uses junior to the predetermined blocks of water necessary to meet their objectives. The Board cannot adjudicate water rights under the guise of establishing water quality objectives -- especially when it admits that the flow criteria are not true water quality objectives.	Please see Common Response 1.2, Water Quality Control Planning Process, for discussion of the relationship between water quality control planning and water right administration, including that adoption of the Bay-Delta Plan.
316	24	The DRSED II Proposed Flow Objectives Commit Waste in Violation of Article X, Section 2 of the California Constitution. In 1926, Amelia Herminghaus prevailed in her suit against Southern California Edison. (Herminghaus v. Southern Cal. Edison Co. (1926) 200 Cal. 81.) (Herminghaus) Ms. Herminghaus asserted, and the trial court found, that in the spring the San Joaquin River flooded her land and left a very fertile silt deposit: the natural flow of the waters of the San Joaquin River is variable in quantity, being more abundant during the period of rainfall in the winter season and also during the late spring and summer when the snows upon its watershed in the high Sierras melt and contribute their accretion to said river; that during these periods in the augmented natural flow of said river the waters thereof flowed naturally out and over the plaintiffs' said lands and saturated the same and deposited thereon a very fertile silt which enriched said land and caused an abundant growth of grasses thereon as the same would not have grown except for said natural irrigation by the overflow of said waters and the deposit of said silt.,. (Jdat 93.) Southern California Edison wanted to build a system of dams and reservoirs upstream, which would have captured the peak spring flows, thereby preventing them from flooding the land owned by Ms. Herminghaus and depriving her of that very fertile silt deposit. The California Supreme Court ruled that the riparian right of Ms. Herminghaus prevailed. (Id. At 108- 113.) "The voters overturned Herminghaus in the 1928 election by	As identified by this commenter, Article X, Section 2 of the California Constitution was adopted in response to the Court's decision in <i>Herminghaus v. Southern Cal. Edison Co.</i>, and acts as a constitutional prohibition on the waste and unreasonable use of water. (<i>Capistrano Taxpayers Assn., Inc. v. City of San Juan Capistrano</i> (2015) 235 Cal.App.4th 1493, 1509.) However, contrary to this commenter's assertion, the unimpaired flow requirements analyzed in the Staff Report do not amount to waste or unreasonable use of water. The State Water Board has the authority to protect beneficial uses against water quality degradation, including fish and wildlife beneficial uses. (Wat. Code, §§ 13050, subdivision (f), 13241.) In establishing the water quality objectives, the State Water Board must consider a number of factors in determining how to reasonably protect particular uses, including beneficial uses of water, the environmental characteristics of the hydrographic unit being considered, water quality conditions that could reasonably be achieved through the coordinated control of all factors affecting water quality in the area, and economic considerations, and other factors. (Wat. Code, § 13241, subd. (a)–(f).) In the State Water Board's considerations of various public interests, the State Water Board must evaluate the proper balance between water supply and water quality and determine what is reasonable. (<i>United States v. State Water Resources Control Bd.</i>, supra, 182 Cal.App.3d at p. 130.) "The decision is essentially a policy judgment requiring a balancing of the competing public interests, one the [State Water] Board is uniquely qualified to make in view of its special knowledge and expertise and its combined statewide responsibility to allocate the rights to, and to control the quality of, state water resources. (§ 174.)" (<i>Ibid.</i>)

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		adopting article X, section 2..." (Capistrano Taxpayers Assn., Inc. v. City of San Juan Capistrano (2015) 235 Cal.App.4th 1493, 1509.) Herminghaus authorized what the dissent "perceived to be a plain waste of good water": The Herminghaus decision, as Justice Shenk wrote in his dissent there, allowed downstream riparian landowners-basically farmers owning land adjacent to a river- to claim 99 percent of the flow of the San Joaquin River even though they were actually using less than 1 percent of that flow. To compound that anomaly, the downstream riparian landowners' claims came at the expense of the efforts of an electric utility company to generate electricity for general, beneficial use by building reservoirs at various points upstream on the river. In the process of upholding the downstream landowners' "riparian rights" over the rights of the electric company to use the water to make electricity, the Herminghaus majority invalidated legislation aimed at preserving water in the state for a reasonable beneficial use, thereby countenancing what Justice Shenk perceived to be a plain waste of good water. (Id. At 1509). Here the Board's position is remarkably close to the position of Ms. Herminghaus. It wants to take as much as 65% of the flow of the river to increase flooding along the riverbanks, just as Ms. Herminghaus did, even though it would be committing a huge amount of water for a few fish. The proposed project, in short, is a plain waste of good water. The Board proposes to return to the days of Herminghaus, where dams were prohibited from diverting the natural flow, and where vast quantities of water were wasted in order to obtain small benefits. Because the Board would require water to be shifted from multiple beneficial uses to a single beneficial use for which they have demonstrated de minimus benefit, the proposed flow objectives would be wasteful and an unreasonable use of water in violation of Article X, §2 of California's Constitution.	The benefits of the unimpaired flow scenarios are documented in Chapter 3 of the Staff Report and further explained in Common Response 3.1, Fish Protection. As discussed in Chapter 3 of the Staff Report, suitable flows are a critical element of protection and restoration of fish and wildlife resources. Contrary to this commenter's assertion that these benefits would be insignificant, Staff Report Section 3.14, Evaluation of Bay-Delta Environmental Flow Effects, demonstrates significant benefits to adopting new flow requirements, including improved estuarine habitat, greater expected population abundances, increased outmigration success, increased floodplain inundation, and improved flow conditions for native fishes in the interior Delta. Please see Common Response 1.2, Water Quality Control Planning Process, for information on reasonable protection of fish and wildlife beneficial uses, and for the State Water Board's authority to prevent waste and unreasonable use under Article X, Section 2 of the California Constitution. Adopting a set of carefully considered water quality objectives (and the program of implementation designed to achieve those objectives) to support aquatic ecosystem conditions and prevent the further deterioration of water quality in order to protect fish and wildlife beneficial uses would not constitute an unreasonable use of water.
316	25	The DRSED II Will Take Private Property Rights for a Public Purpose.	Contrary to this commenter's assertion, the State Water Board's proposed Plan amendments will not constitute a compensable taking under the Takings Clause of the United States Constitution

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		To constitute a compensable taking under the Fifth Amendment, the government must take private property for public use. (Klamath Irr. v. US., 129 Fed. CL 722 (2016).) The physical facilities necessary to effectuate the Board's plan - the dams, canals, drains and other facilities used by many of the affected water agencies and irrigation districts, including MID, to divert, store and deliver water from the affected rivers and tributaries are in some instances private property facilities owned, operated, built and maintained by these entities. Further, the pre-and post-1914 appropriative water rights held by MID as well as many other affected interests are private property which cannot be taken by government action without just compensation. (See, e.g., United States v. State Water Res. Control Bd. (1986) 182 Cal.App.3d 82, 100.) The commandeering of storage at various facilities and reservoirs and subsequent release of stored water for the benefit of fish and wildlife downstream will be considered a public use for purposes of the Fifth Amendment. (Casitas Mun. Water Dist. V. United States (Fed.Cir. 2008) 543 F.3d 1276, 1292-1293.) (Castias III.) Compensation will be required even if the appropriation is based upon the SWB's alleged public trust authority. (See National Audubon Soc. V. Superior Court (1983) 33 Cal.3d 419,440, citing Illinois Central Railroad Co. v. Illinois, 146 U.S. 387, 455, for proposition that use of public trust to order removal of improvements on public trust lands would require compensation.)	(U.S. Const. Amend. V). In order for there to be a cognizable property interest to support a takings claim, a plaintiff must demonstrate they possess a right to use the property allegedly taken. (American Pelagic Fishing Co. v. United States (Fed. Cir. 2004) 379 F.3d 1363, 1377.) Water rights differ from more traditional property rights in that they are non-possessory rights of use inherently subject to the overriding limitations and restrictions set forth by California's constitutional prohibition of waste and unreasonable use (Cal. Const. Art. X, Sec. 2) and public trust doctrine. No water right holder has a vested right to divert a specified quantity of water without limitation (Eddy v. Simpson (1853) 3 Cal. 249, 252; United States v. State Water Resources Control Bd. (1986) 182 Cal.App.3d 82, 100, 105-106, 147.) Instead, a water right entitles its holder to use up to a certain quantity of water, subject to the overriding limitations and restrictions of California's reasonable use and public trust doctrines, which inhere in the water right itself. (National Audubon Society v. Superior Court (1983) 33 Cal.3d 419, 437, 440, 445, 447; Joslin v. Marin Municipal Water Dist., (1967) 67 Cal.2d 132, 144-145. Pursuant to these doctrines, a water right holder may be prevented from diverting the maximum quantity of water under its water rights in order to prevent harm to fishery resources and other beneficial uses. (United States v. State Water Resources Control Bd., supra, 182 Cal.App.3d at 130). These limitations do not qualify as a taking, physical or regulatory, of a property right, since no one holds a property right that entitles them to the unlimited and unregulated use of surface water in California in violation of the public trust doctrine or constitutional prohibition on waste and unreasonable use. As declared by the California legislature in Water Code Section 174, the State Water Board is responsible for "the orderly and efficient administration of the water resources of the state" through regulation and "coordinated consideration of water rights, water quality, and safe and reliable drinking water." In no way is it improper for the State Water Board to adopt a set of water quality objectives and a program of implementation that requires entities to change how they use facilities associated with the diversion and storage of water.

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			See Common Response 1.2, Water Quality Control Planning Process, for more discussion on due process and compensable taking of private property.
316	26	The DRSED II Fails to Adequately Analyze Climate Change Impacts. The DRSED II does not provide sufficient information to determine impacts related to climate change. Given the multiple Executive Orders, the California Water Action Plan ("CWAP") and SB 350, both the Governor and the California Natural Resources Agency expect the Board to include a climate change analysis in the DRSED II to comply with state climate change policies. The DRSED II's only analysis is to pledge to incorporate climate change analyses into future Board planning documents and that it is waiting for inputs from the California Department of Water Resources, expected in January 2024, to conduct the analyses. This is clearly inadequate because, at base, it does not comply with state law, state policy or even Board policy to analyze climate change. The CWAP states that "the effects of climate change are already being felt" and that "the Sierra Snowpack is decreasing, which reduces natural water storage and also alters winter and spring runoff patterns." (CWAP (2016), p. 3.) Additionally, the CWAP goes on to state that climate change will factor in "higher river and ocean temperatures" that will "make it harder to maintain adequate habitat for native fish species." (CWAP (2016), p.3-4.) These factors are all immediately relevant and reasonably foreseeable but none are analyzed As a result, the DRSED II underestimates the impacts of the Project on surface water, groundwater, drinking water, agricultural resources and other parts of the environment. Climate change will likely change the timing of flows (e.g., more late fall and winter flows, less spring flows) which would result in less efficient reservoir storage and likely impact carryover storage. Because of these factors, the Board will likely need higher levels of UIF (e.g., 65% or greater) in order to attain its water temperature and floodplain inundation objectives. These potential consequences were not analyzed in the DRSED II. Further, the DRSED II's wholesale	Please refer to Common Response 4.2, Drought and Climate Change, regarding the consideration of climate change in Staff Report modeling, consistency with regulatory requirements and other policies, and the analysis of project impacts with respect to climate change.

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		deferral of any analysis of climate change is fatal to informed analysis or discussion about the Project and thus violates CEQA and other applicable statutes.	
316	27	CONCLUSION MID respectfully requests the Board rescind the DRSED II. The document is scientifically and legally deficient in multiple areas. The DRSED II is a misguided attempt to improperly use the water quality control planning process to "reallocate" water rights. The Board's approval of the DRSED II will completely devastate the entire Central Valley, turning one of the nation's most productive regions into a desert wasteland. Approval will impose tremendous socioeconomic, economic, and environmental costs upon the people of California with little to no hope that it will actually benefit any species. We implore the Board to rescind the DRSED II and utilize the available science and information contained in the voluntary settlement 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. To the extent that this comment summarizes other comments, please see the substantive responses to those comments.
316	28	[ATT 1: Graphic titled Phase I Bay Delta Water Quality Control Plan Substitute Environmental Document (SED) Disadvantaged Communities by Census Block Group]	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.
316	29	[ATT 2: Graphic titled Phase II Bay Delta Water Quality Control Plan Substitute Environmental Document (SED) Disadvantaged Communities by Census Block Group]	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.
316	30	[ATT 3: Document titled 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]	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.
316	31	[ATT 4:] San Joaquin River Water Fate Analysis SWRCB Sacramento/Delta Draft Staff Report January 19, 2024	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to comments; therefore, no additional response is required.

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		Agenda Overview Scenario 1: Existing Condition Scenario 2: 55% Unimpaired Flow Comparison of Scenarios 1 and 2	
316	32	[ATT 4:] Overview Scenarios evaluated - Exponent received DSM2 model files from the SWRCB for the following scenarios: Existing Condition, Unimpaired Flow Scenarios (35%, 45%, 55%, 65%, 75%), and Voluntary Agreement (VA) -- SWRCB used the Sacramento Water Allocation Model (SacWAM) to generate input data for the DSM2 modeling -- SWRCB's DSM2 modeling focused on the 16-year period of 1975-1991 - Exponent evaluated two DSM2 model runs: -- Existing condition (no project) -- 55% unimpaired flow model run (proposal) - San Joaquin River inflows are identical in the two scenarios Analysis methods - Exponent performed DSM2 simulations using the SWRCB's model files with the following modifications: -- San Joaquin River inflow at Vernalis between February 1 and	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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		June 30 was "tagged" to track its fate through the Delta (modeled San Joaquin River flows continued before and after this time period but were not tagged) -- Volumetric fingerprinting was used to track the tagged San Joaquin River flow (Feb 1 - Jun 30) exported at Tracy Pumping Plant (CVP) and Clifton Court Forebay (SWP), diverted at Rock Slough (CCWD), and exiting the Delta at Martinez (Delta outflow) - Results: -- Tabular results are provided for all WY in the 1975-1991 model period -- Graphics are provided for representative WY types in the 1975-1991 period -- Results are presented both as simulated daily values and as cumulative volumes	
316	33	[Exhibit 1 of ATT 4: PowerPoint slide of multiple graphs titled Model input Sacramento River (fixed y-axis)]	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.
316	34	[Exhibit 2 of ATT 4: Model Input for the Sacramento River (flexible y-axis) for Existing and 55% UIF conditions.]	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.
316	35	[Exhibit 3 of ATT 4: PowerPoint slide of multiple graphs titled Model input San Joaquin River (fixed y-axis)]	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.
316	36	[Exhibit 4 of ATT 4: PowerPoint slide of multiple graphs titled Model input San Joaquin River (flexible y-axis)]	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.
316	37	[Exhibit 5 of ATT 4: PowerPoint slide of multiple graphs titled Model input data – exports]	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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316	38	[Exhibit 6 of ATT 4: PowerPoint slide of multiple graphs titled Model input data – exports]	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.
316	39	[Exhibit 7 of ATT 4: PowerPoint title slide titled Scenario 1: Existing Condition]	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.
316	40	[Exhibit 8 of ATT 4: PowerPoint table titled Scenario 1: Fate of San Joaquin River flows entering Delta from Feb 1-Jun 30]	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.
316	41	[Exhibit 9 of ATT 4: PowerPoint table titled Scenario 1: Fate of San Joaquin River flows entering the Delta from Feb 1-Jun 30]	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.
316	42	[Exhibit 10 of ATT 4: PowerPoint graph titled Scenario 1: WY 1983 (Wet) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	43	[Exhibit 11 of ATT 4: PowerPoint graph titled Scenario 1: WY 1978 (Above Normal) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	44	[Exhibit 12 of ATT 4: PowerPoint graph titled Scenario 1: WY 1979 (Below Normal) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	45	[Exhibit 13 of ATT 4: PowerPoint graph titled Scenario 1: WY 1985 (Dry) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	46	[Exhibit 14 of ATT 4: PowerPoint graph titled Scenario 1: WY 1988 (Critical) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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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316	47	[Exhibit 15 of ATT 4: PowerPoint graph titled Scenario 1: WY 1983 (wet) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	48	[Exhibit 16 of ATT 4: PowerPoint graph titled Scenario 1: WY 1978 (Above Normal) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	49	[Exhibit 17 of ATT 4: PowerPoint graph titled Scenario 1: WY 1979 (Below Normal) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	50	[Exhibit 18 of ATT 4: PowerPoint graph titled Scenario 1: WY 1985 (Dry) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	51	[Exhibit 19 of ATT 4: PowerPoint graph titled Scenario 1: WY 1988 (Critical) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	52	[Exhibit 20 of ATT 4: PowerPoint slide of two graphs titled Scenario 1: Wet and Above Normal Years Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	53	[Exhibit 21 of ATT 4: PowerPoint slide of three graphs titled Scenario 1: Below Normal, Dry, and Critical Years Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	54	[Exhibit 22 of ATT 4: PowerPoint title slide titled Scenario 2: 55% Unimpaired Flow]	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.
316	55	[Exhibit 23 of ATT 4: PowerPoint table titled Scenario 2: Fate of San Joaquin River flows entering the Delta from Feb 1-Jun 30]	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.
316	56	[Exhibit 24 of ATT 4: PowerPoint table titled Scenario 2: Fate of San Joaquin River Flows entering the Delta from Feb 1-Jun 30]	This exhibit was included in the comment letter. The exhibit does not raise specific environmental impact or economic effect of the

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			project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
316	57	[Exhibit 25 of ATT 4: PowerPoint graph titled Scenario 2: WY 1983 (Wet) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	58	[Exhibit 26 of ATT 4: PowerPoint graph titled Scenario 2: WY 1978 (Above Normal) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	59	[Exhibit 27 of ATT 4: PowerPoint graph titled Scenario 2: WY 1979 (Below Normal) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	60	[Exhibit 28 of ATT 4: PowerPoint graph titled Scenario 2: WY 1985 (Dry) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	61	[Exhibit 29 of ATT 4: PowerPoint graph titled Scenario 2: WY 1988 (Critical) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Daily average values, TAF)]	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.
316	62	[Exhibit 30 of ATT 4: PowerPoint graph titled Scenario 2: WY 1983 (Wet) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	63	[Exhibit 31 of ATT 4: PowerPoint graph titled Scenario 2: WY 1978 (Above Normal) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	64	[Exhibit 32 of ATT 4: PowerPoint graph titled Scenario 2: WY 1979 (Below Normal) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	65	[Exhibit 33 of ATT 4: PowerPoint graph titled Scenario 2: WY 1985 (Dry) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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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316	66	[Exhibit 34 of ATT 4: PowerPoint graph titled Scenario 2: WY 1988 (Critical) Fate of San Joaquin River Inflow (Feb 1-Jun 30) (Cumulative, TAF)]	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.
316	67	[Exhibit 35 of ATT 4: PowerPoint slide of two graphs titled Scenario 2: Wet and Above Normal Years Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	68	[Exhibit 36 of ATT 4: PowerPoint slide of three graphs titled Scenario 2: Below Normal, Dry, and Critical Years Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	69	[Exhibit 37 of ATT 4: PowerPoint title slide titled Comparison of Scenarios 1 and 2]	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.
316	70	[Exhibit 38 of ATT 4: PowerPoint of two graphs titled Existing vs. 55% UIF: WY 1983 (Wet) Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	71	[Exhibit 39 of ATT 4: PowerPoint of two graphs titled Existing vs. 55% UIF: WY 1978 (Above Normal) Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	72	[Exhibit 40 of ATT 4: PowerPoint of two graphs titled Existing vs. 55% UIF: WY 1979 (Below Normal) Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	73	[Exhibit 41 of ATT 4: PowerPoint of two graphs titled Existing vs. 55% UIF: WY 1985 (Dry) Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	74	[Exhibit 42 of ATT 4: PowerPoint of two graphs titled Existing vs. 55% UIF: WY 1988 (Critical) Fate of San Joaquin River Inflow (%) (Feb 1-Jun 30)]	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.
316	75	[ATT 5: Graphic titled Phase I and Phase II Bay Delta Water Quality Control Plan Overlap]	This attachment was included with the comment letter. The attachment does not raise a specific environmental impact or

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			economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing attachments to comments.
318	1	I. Overview MBK was tasked with a technical review of the 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 (DSR) and associated modeling. This report is a summary of the technical review and key findings. Sections and Key Findings This report is organized into four sections. The first section makes direct comparisons between results for the Agreements to Support Healthy Rivers and Landscapes (VA Alternative) and the 55% Unimpaired Flow (UIF) scenario. The "Agreements to Support Healthy Rivers and Landscapes" is the updated name and reference for the "Voluntary Agreements" or "VA's" as described and detailed in the DSR Chapter 9 and Appendix G. The comparisons use information from the DSR and the Sacramento Water Allocation Model (SacWAM) and temperature model results received from State Water Resources Control Board (SWRCB) staff. The DSR contains most of the results presented in the first section but summarizes the results in separate chapters and sometimes in different ways that make direct comparisons challenging. The key finding from the first section of this report is as follows: Analysis contained in the DSR demonstrates that the VA Alternative provides more benefits with less impacts than the Proposed Plan Amendments. [Footnote 1: For purposes of this report, "Proposed Plan Amendments" (PPA) includes an inflow objective from the Sacramento River and Delta tributaries to the Delta at 55% of unimpaired flow, within an allowed adaptive range between 45 and 65% of unimpaired flow (DSR, 5-17). The PPA also includes a narrative cold-water habitat objective to ensure there are no redirected impacts on 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.

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		from the inflow and Delta outflow objectives and to address temperature management concerns on the tributaries (DSR, 5-22).]	
318	2	The second section of this report summarizes the results of independent modeling of the VA Alternative completed by the California Department of Water Resources (DWR) using the CalSim 3.0 model. Other than the use of different models, the key difference between the modeling conducted by DWR and the modeling presented in the DSR using SacWAM is that the DWR modeling contains consistent assumptions for the regulatory requirements governing Delta exports between the DWR baseline and the DWR VA Alternative. Maintaining consistent assumptions for areas that are not part of the alternative being analyzed is the standard practice in the engineering profession. The key finding from the second section of this report is as follows: Separate modeling of the VA Alternative, performed by DWR, wherein the regulatory requirements remain consistent with those in the DWR baseline, show significantly more Delta outflow with the VA Alternative as compared to results set forth in the DSR. Analysis of the VA Alternative benefits that are based on Delta outflow are underestimated in the DSR. Our review of the CalSim 3.0 modeling does not indicate there would be any new or more severe environmental impacts of the VA Alternative than contained in the DSR.	Please refer to Common Response 6.2, Baseline and No Project Alternative, for comments that raise issues about baseline assumptions. Additionally, please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding SacWAM VA scenario assumptions.
318	3	The third section of this report describes unavoidable impacts of UIF requirements with California's current hydrology and how those impacts will exacerbate the impacts of climate change. The key findings of the third section of the report are as follows: There are significant, real-world adverse impacts that would result from implementation of an unimpaired flow requirement of 45 to 65%.	The impacts of the flow scenarios were analyzed in Chapter 7, Environmental Analysis, of the 2023 draft Staff Report. Please see Common Response 4.2, Drought and Climate Change, for discussion of climate change.
318	4	The real-world adverse impacts of an unimpaired flow requirement of 45 to 65% will exacerbate the effects of climate change and are not evaluated in the DSR.	Please see the response to comment 318-3.

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318	5	The fourth section of this report describes key information that is missing from the DSR, in addition to the effects of climate change that were not evaluated as indicated above. The primary missing information is an implementation plan to describe how the PPA will be implemented in combination with the cold water habitat objective. The key findings of the fourth section of the report are as follows: The lack of an implementation plan and the wide range of potential actions for the Proposed Plan Amendments make it extremely difficult to understand the impacts of the Proposed Plan Amendments on reservoir operations, river flows, water deliveries, and Delta outflow.	The 2023 draft Staff Report included a detailed description of the proposed contents of the program of implementation in sufficient detail for the purposes of the analysis. However, drafts of the Bay-Delta Plan were subsequently released for public review and comment in October 2024, July 2025, and December 2025. Please see Common Response 1.3, Revised Proposed Plan Amendments, for a response to comments on the cold water habitat objective.
318	6	The DSR does not provide information on the impacts of UIF requirements during multi-year drought periods.	Please also see Common Response 4.2, Drought and Climate Change, for responses to comments that raise issues with the analysis of climate change and multi-year droughts in the Staff Report.
318	7	The DSR describes several modular alternatives but provides limited model results for only one modular alternative and relies on qualitative descriptions of effects for the other modular alternatives.	The modular alternatives were analyzed in Staff Report Section 7.24, Alternatives Analysis, and Section 9.9, Modular Alternatives for Proposed VAs. See Common Response 7.24, Alternatives Analysis, for more information on the analysis of alternatives.
318	8	The final section is a summary of the findings of a technical review of SacWAM modeling for the UIF scenarios based on a review of the model results. Supporting information for the following key findings are contained in the final section of this report: Differences in how the UIF requirements and narrative cold water habitat objective are modeled on different river systems within the Sacramento Valley result in disproportionate impacts within the Sacramento Valley, North and South of Delta, and between the CVP and SWP. SacWAM model results demonstrate that UIF scenarios include model operations that are inconsistent with U.S. Bureau of Reclamation policies and contract obligations. A failure to accurately simulate Reclamation policies and contract obligations result in modeled water supply impacts and associated reservoir operations that are inconsistent with actual system operations.	As discussed in Chapter 2, Hydrology and Water Supply, of the Staff Report, some tributaries are currently more impaired than others and therefore require greater increases in streamflow from baseline to meet the unimpaired flow requirements, affecting diversions differently for different tributaries. Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply regarding CVP allocations and obligations. Additionally, some reservoirs are operated closer to the carryover storage values estimated to protect cold water habitat under the existing conditions than other reservoirs. As a result, less change is required on the tributaries where these reservoirs are located, and therefore the impacts may be smaller.

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318	9	The PPA is the other primary alternative discussed in this report. As noted above, the PPA includes an inflow objective from the Sacramento River and Delta tributaries to the Delta at 55% of unimpaired flow, within an allowed adaptive range between 45 and 65% of unimpaired flow (DSR, 5-17). The PPA also includes a narrative cold-water habitat objective to ensure there are no redirected impacts on cold water habitat from the inflow and Delta outflow objectives and to address temperature management concerns on the tributaries (DSR, 5-22). The cold-water habitat objective would apply on all Sacramento/Delta tributaries that support or contribute to protection of salmonids and other native, cold-water fish species (DSR, 5-22). There is no single model simulation that represents the PPA in the DSR. The DSR contains results from analyses of discrete UIF percentages across a range of 35% to 75% UIF, paired with other modeling assumptions to simulate the narrative cold-water habitat objective. There is no single model simulation that includes a range of UIF requirements that is adaptive to different conditions or meeting different objectives. For comparison with the VA Alternative and to illustrate different points, results from the 55% UIF scenario are presented in this report because this scenario represents the default UIF requirement under the PPA.	The proposed Plan amendments remain part of the project as the regulatory pathway, and are discussed in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the Staff Report, as identified by this commenter. In addition, 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. Please see Staff Report Section 13.4.2, Modeling Approach, for a discussion of the modeling approach for the revised proposed Plan amendments.
318	10	II. VA Alternative: More Benefits with Less Impacts Analysis contained in the DSR demonstrates that the VA Alternative provides more benefits with less impacts than the Proposed Plan Amendments. The DSR analyzes the benefits and impacts of the Agreements to Support Healthy Rivers and Landscapes (Agreements) as the "VA Alternative." Results for the VA Alternative are contained in DSR Chapter 9 and the Final Scientific Basis Report Supplement that is Appendix G2 to the DSR. The DSR also presents SacWAM and other model results of analysis of unimpaired flow requirements at discrete percentages in combination operational assumptions for the cold water habitat objective. The DSR does not include direct comparisons of benefits and impacts for the VA Alternative and percent UIF scenarios. The	Please refer to Section 13.7.1.4, Alternatives Analysis, and Common Response 7.1, General CEQA and Approach to the Analysis, for more information on the CEQA environmentally superior alternative.

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		following sections provide a direct comparison of results for these two alternatives. The figures and tables presented are results contained in the DSR and references to where the information can be found are provided. Results for the 55% UIF scenario are presented and assumed to be representative of the PPA because that scenario is described as the default flow requirement within the adaptive range. (DSR, 5-17).	
318	11	Tributary Salmonid Habitat The VA Alternative provides more salmonid benefits on the tributaries than the 55% UIF scenario, increases habitat to address limiting factors, and provides benefits across all water year types by making efficient use of existing flows and the VA flow assets. The DSR includes a summary of results for both the VA Alternative and PPA for salmonid habitat on tributaries of the Sacramento River and Delta. This information is contained in Chapter 3, tables 3.14-8 (spawning) and 3.14-9 (rearing), for the UIF scenarios, and Chapter 9, tables 9.6-1 (spawning) and 9.6-2 (rearing), for the VA Alternative. For both the VA Alternative and UIF scenarios the analysis started with SacWAM modeling of flows and included subsequent analyses of depth, velocity, and temperature to evaluate suitable habitat during the seasons for each salmon run and habitat type. Results for the UIF scenarios are presented as median acres (figures) and percent change (tables) in habitat across 21 watersheds for fall-run Chinook salmon and four watersheds for spring-run Chinook salmon. Results for the VA Alternative are presented as median acres for the baseline and with VA. Results from the tables in Chapter 9 of the DSR were used to calculate the percent change in suitable habitat as acres with VA minus baseline acres divided by baseline acres for a direct comparison with UIF scenario results. Figure 1 [Exhibit 1] is the percent change in suitable salmonid spawning and rearing habitat for the VA alternative and the 55% UIF scenario on the rivers with Agreements included in the analysis of the VA Alternative. Results in Figure 1 show larger percent changes in suitable	Please see Common Response 3.1, Fish Protection, for instructions on interpreting the results of the habitat analyses. 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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		salmonid spawning and rearing habitat on the American, Feather, Sacramento, and Yuba rivers with the VA Alternative as compared to the 55% UIF scenario. Spawning habitat more than doubles on the American River and approximately triples on the Sacramento River under the VA Alternative. Rearing habitat improvements under the VA exceed those under the 55% UIF scenario by at least a factor of two (Feather) and often significantly more (American, Sacramento, and Yuba). It is our understanding that the Mokelumne River could be improved by analysis at a sub-monthly timestep to better reflect pulse flows with the VA Alternative. Figure 1 does not include changes on all watersheds included in tables for the UIF scenarios or across the range of UIF contained in the PPA. Moreover, Figure 1 does not include changes on the Calaveras River where the DSR results show 55% UIF would increase spawning and rearing habitat by 16% or on Clear Creek where rearing habitat increases by 4%. Additionally, the results for the VA Alternative do not include 20,000 acres of floodplain restoration in the Suter Bypass that will provide rearing habitat for fish from the Feather and Sacramento rivers (DSR, 9-76).	
318	12	[Exhibit 1: Graph titled Figure 1. Change in Median Salmonid Spawning and Rearing Habitat with VA and 55% UIF Alternatives]	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.
318	13	The DSR provides additional details on the percent increases in tributary salmonid habitat with the VA Alternative in Appendix G2, the Supplement to the SBR, tables 6-1 and 6-2. Figure 2 [See Exhibit 2] and Figure 3 [See Exhibit 3] summarize the median percent increase from these tables for spawning and rearing habitat, respectively. Results summarized in these two figures illustrate two key points regarding the VA Alternative. First, the VA Alternative strategically addresses the specific needs of each tributary. For example, spawning habitat is not a limiting factor on the Yuba River and therefore VA habitat projects focus on additional rearing habitat on that system. Second, VA habitat projects provide benefits across the range of existing flows, including years without VA flow contributions. The result is an efficient use of existing flows to increase salmonid habitat in all years.	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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318	14	[Exhibit 2: Graph titled Figure 2. Percent Change in Tributary Spawning Habitat by Water Year Type with VA Alternative]	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.
318	15	[Exhibit 3: Graph titled Figure 3. Percent Change in Tributary Rearing Habitat by Water Year Type with VA Alternative]	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.
318	16	Temperature Management The VA Alternative will have less impact on the ability to manage water temperature below reservoirs as compared to the 55% UIF scenario. Summaries of the simulated changes in water temperature between the Baseline and UIF scenarios and the Baseline and VA Alternative are included in DSR Appendix A6 and DSR Appendix G3E, respectively. The model outputs summarized in these appendices for the Sacramento and Feather rivers were provided by SWRCB staff and used to generate the following figures [See Exhibit 4, Exhibit 5, Exhibit 6, and Exhibit 7]. These figures illustrate the changes from the Baseline in average monthly water temperature by water year type at locations on the Sacramento and Feather rivers downstream of the major reservoirs and regulating reservoirs on both rivers. Comparison of the changes in water temperatures in Figure 4 (VA Alternative) [See Exhibit 4] with Figure 5 (55% UIF scenario) [See Exhibit 5] shows that temperature increases with the VA Alternative are less than 0.5 degrees Fahrenheit for all months and water year types. Increases in water temperature under the 55% UIF scenario are one to two degrees in June and July of dry and critical years. Under the 55% scenario, the water temperature increases occur despite simulated actions that reduce reservoir releases and downstream water supplies to implement the narrative cold-water habitat objective. Comparison of the changes in water temperatures in Figure 6 (VA Alternative) [See Exhibit 6] with Figure 7 (55% UIF scenario) [See Exhibit 7] shows increases with the VA Alternative	The Staff Report acknowledges that overall, changes in streamflows and reservoir levels would be less under the proposed VAs, and model results for the American, Feather, and Sacramento Rivers indicate that water temperature conditions under the proposed VA would be similar to baseline. However, it is possible that there could be some instances on some streams where temperatures could increase. Because the sources of the unspecified water purchases are not fully known at this time but could include inflow sources within the Sacramento/Delta watershed, it is possible that there could be additional changes in water temperature on the American, Feather, and Sacramento Rivers or other Sacramento/Delta tributaries beyond the changes that were modeled and analyzed. 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 1.3, Revised Proposed Plan Amendments, for a discussion of the revised proposed Plan amendments.

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		are minimal in most months and water year types, but up to one to two degrees Fahrenheit in April and September of some water year types. Increases in water temperature under the 55% UIF scenario are one to four degrees from June through October of several water year types.	
318	17	[Exhibit 4: Graph titled Figure 4. Average Monthly Change in Sacramento River above Clear Creek with VA Alternative]	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.
318	18	[Exhibit 5: Graph titled Figure 5. Average Monthly Change in Sacramento River above Clear Creek Water Temperature with 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.
318	19	[Exhibit 6: Graph titled Figure 6. Average Monthly Change in Feather River at Gridley Water Temperature with VA Alternative]	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.
318	20	[Exhibit 7: Graph titled Figure 7. Average Monthly Change in Feather River at Gridley Water Temperature with 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.
318	21	Rice Acres and Wildlife Refuge Water Supply The VA Alternative will have less impact on the acres of rice land in production in the Sacramento River Basin than the 55% UIF scenario and no impact on wildlife refuge water supplies, unlike the 55% UIF scenario.	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.
318	22	The VA Alternative for the Sacramento River Basin will make water available by idling up to 35,000 acres of rice land [Footnote 2: See footnote 6 to Table 1a in the 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.] in above normal, below normal, and dry years. An estimate of the annual reduction in rice land in production under the 55% UIF scenario was developed based on reductions in SacWAM diversions to the primary rice growing areas of the Sacramento River Basin including the SRSC; diversions from the Thermalito Afterbay on the Feather River; Yuba Water Agency diversions; and South	Please see the response to comment 318-24.

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		Suter Water District diversions from the Bear River. The combined reductions in simulated irrigation season diversions were divided by an approximate diversion duty of five acre-feet per acre to estimate the reduced rice acres each year. Figure 8 [See Exhibit 8] illustrates the annual reductions in Sacramento River Basin rice acres in production for the VA Alternative and 55% UIF scenario.	
318	23	[Exhibit 8: Graph titled Figure 8. Estimated Annual Reductions in Sacramento River Basin Rice Acreage]	Please see the response to comment 318-24.
318	24	Results summarized in Figure 8 [See Exhibit 8] show that, under the 55% UIF scenario, rice acreage will be reduced by 150,000 to 200,000 acres or more in multiple periods of consecutive years and may reach more than 250,000 acres, similar to the reductions that occurred in 2022 on the westside of the Sacramento River. By comparison, under the VA Alternative the maximum reduction in rice acreage in production in the Sacramento River Basin in any one year is 35,000 acres.	Given the inherent uncertainties involved in modeling agricultural impacts, the Staff Report uses a reasonable and conservative approach to evaluating potential agricultural impacts of the flow scenarios. The analysis of potential changes in crop acreage presented in Section 7.4, Agriculture and Forest Resources, includes estimates obtained from the SWAP model. SWAP is currently the best available tool for modeling agricultural economic responses to water supply shortage. It has been peer-reviewed and applied to numerous policy analyses and impact assessments over the last two decades. Please see Common Response 7.4, Agricultural Resources, and Common Response 8.1, Economic Analysis and Other Considerations, for additional information on the SWAP model, agricultural impacts, and agricultural economic effects. Table 7.4-18 in the 2023 draft Staff Report shows the SWAP estimated changes in irrigated crop acreage in the Sacramento/Delta for a dry year if groundwater is not used to offset surface water supply reductions. As shown in Table 7.4-18, approximately 144,000 acres total within the Sacramento/Delta watershed are estimated by the SWAP model to be fallowed under the 55 scenario. Of this amount, approximately 74,400 acres consists of fallowed rice acres. The commenter estimates a much larger reduction in rice crop acreage of 139,000 acres under the 55 scenario that is not reasonable for several reasons. First, the commenter appears to assume that all Sacramento/Delta surface water supply reductions to agriculture in the Sacramento/Delta watershed would affect only rice growers, and that these changes would not affect any other crop types. It is not reasonable to assume that all

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			changes in Sacramento/Delta water supply to agriculture would affect only rice crop growers. Nearly all of California's rice acreage is located within a few counties in the Sacramento River watershed, and the actual Sacramento/Delta surface water supply reductions as estimated by SacWAM and presented by demand node in Appendix A1, Sacramento Water Allocation Model Methods and Results, would be expected to be distributed among a much larger geographic area and group of water users than the commenter's analysis appears to assume. Actual crop acreage changes would depend on a number of different economic and other factors, including the priority of individual water right diversions, availability of local supplies, and other factors. In addition, the commenter's analysis appears to assume that any reduction in agricultural water supply would result in fallowed lands. It is not reasonable to assume that all growers would respond to reduced Sacramento/Delta supplies by fallowing land. In actuality, in response to reductions in Sacramento/Delta supply, individual water users may choose to increase groundwater pumping, where available and not locally restricted, substitute with lower-water-use crops, engage in deficit irrigation, or fallow land. Finally, the commenter's analysis appears to have estimated all rice crop acreage reductions by comparing rice crop acreage under the flow scenarios for each individual year to the baseline maximum amount of rice crop acreage under full water supply conditions across all years, which does not consider that Sacramento/Delta surface water supplies to agriculture are less for drier years than wetter years under existing conditions, and therefore, baseline rice crop acreage is less during drier years than wetter years under existing years. As a result, the rice crop acreage reductions estimated by the commenter are artificially high for drier years. To contrast, the Staff Report's analysis of impacts on agriculture is informed by the SWAP model, which estimates the cropping pattern that maximizes the net returns to agricultural production subject to resource constraints, technical production relationships, and market conditions. SWAP incorporates information on the availability of water supplies within a SWAP modeled region, such as SWP and CVP deliveries, local surface water supplies, and groundwater in its analysis. As conditions change within a SWAP modeled region (e.g., the quantity of

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			available SWP and CVP water supply decreases or the cost of groundwater pumping increases), the model optimizes production by adjusting the crop mix, water sources and quantities used, and other inputs. SWAP estimates that land will be fallowed when that is the most cost-effective response to changes in resource conditions. In addition, to respond to comments received on the SWAP analysis presented in the Staff Report, supplemental SWAP model runs were conducted for the driest water year (1977) intended to represent the last year of a multi-year drought. The supplemental SWAP model results for the driest water year (1977) intended to represent the last year of a multi-year drought are presented in Common Response 7.4, Agricultural Resources, for changes in crop acreage, and in Common Response 8.1, Economic Analysis and Other Considerations, for the corresponding changes in crop revenue. These supplemental results show that although Sacramento/Delta surface water supplies would be reduced under the flow scenarios, water users already experience limited agricultural water supplies during drought conditions that are not attributed to the flow scenarios.
318	25	Reductions in rice acreage reduce habitat for terrestrial species in the Sacramento Valley including waterfowl and giant garter snakes (DSR, 7.6.1-54). The DSR shows additional impacts to wildlife refuge water supply under the 55% UIF scenario. Figure 9 [See Exhibit 9] is an annual summary of the change in wildlife refuge water supply from SacWAM model results for refuges located north and south of the Delta. The DSR includes annual average changes in refuge water supply in Table 7.6.1-5.	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 7.1, General CEQA and Approach to the Analysis, regarding the approach to the environmental analysis for the proposed VAs; and Common Response 7.24, Alternatives Analysis, regarding discussion of an environmentally superior alternative. The 2023 draft Staff Report identified and disclosed potentially significant impacts on wildlife species that rely on Sacramento/Delta water supplied to wildlife refuges and certain agricultural lands in Section 7.6.1.4, Impact Analysis. Additionally, the proposed Plan amendments would include measures to reduce or minimize the unintended consequences to terrestrial species and refuges that rely on supplies from the Sacramento/Delta. For more information see Section 5.6.2.6, Refuge Water Supplies and Other Wildlife Protection Measures, in the 2023 draft Staff Report.

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			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. 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 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. As discussed in Section 13.4, Agriculture and Forest Resources, refuge priorities were increased relative to other senior demands to reflect provisions of the December 2025 revised draft Bay-Delta Plan intended to prioritize refuge water supplies. However, while the SacWAM results suggest that changes in Sacramento/Delta water supply to wildlife refuges under the 55 w/WSAs scenario and flow scenarios could be negligible, the analysis of impacts resulting from changes in refuge water supplies is complicated by Reclamation's past practice of reducing water supplies to Central Valley Project Improvement Act (CVPIA) wildlife refuges when it reduces allocations to Sacramento River settlement contractors; therefore, it is possible that reductions in Sacramento/Delta surface water supplies to wildlife refuges could at times be larger than indicated by the modeling.
318	26	[Exhibit 9: Graph titled Figure 9. Annual Change in Wildlife Refuge Water Supply from SacWAM Results]	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.
318	27	Figure 9 [See Exhibit 9] shows that, under the 55% UIF scenario, annual reductions in refuge water supply can exceed 100 TAF in multiple periods of consecutive years. The VA Alternative does not result in any reductions in simulated refuge water supply. A comparison of Figure 8 and Figure 9 shows that, under the 55%	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 7.1, General CEQA and Approach to the Analysis, regarding the

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		UIF scenario, the largest reductions in rice acres occur in the same years as the largest reductions in wildlife refuge water supplies, compounding the impacts to terrestrial species in those years.	approach to the environmental analysis for the proposed VAs; and Common Response 7.24, Alternatives Analysis, regarding discussion of an environmentally superior alternative. The 2023 draft Staff Report identified and disclosed potentially significant impacts on wildlife species that rely on Sacramento/Delta water supplied to wildlife refuges and certain agricultural lands in Section 7.6.1.4, Impact Analysis. Additionally, the proposed Plan amendments would include measures to reduce or minimize the unintended consequences to terrestrial species and refuges that rely on supplies from the Sacramento/Delta. For more information see Section 5.6.2.6, Refuge Water Supplies and Other Wildlife Protection Measures, in the 2023 draft Staff Report. Section 7.6.1.4, Impact Analysis, Impact TER-a of the 2023 draft Staff Report analyzed the impacts to special status species that result from the reductions in water supply to wildlife refuges and to agricultural habitat such as rice fields. The analysis of water supply changes to refuges was conducted using the SacWAM for a variety of flow scenarios and the results are shown in Table 7.6.1-5. Analyses of reductions in acreage of agricultural habitat (including rice habitat) for special status species using the SWAP model is discussed throughout the rest of the “Reduced Sacramento/Delta Supply to Refuges and Agriculture” subsection. Years with greater reductions in water supply to wildlife refuges coincide with reductions in crop acreage because both impacts generally have the same impact mechanism, the overall reduction in water Sacramento-Delta supplies watershed wide. 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. 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

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			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. As discussed in Section 13.4, Agriculture and Forest Resources, refuge priorities were increased relative to other senior demands to reflect provisions of the December 2025 revised draft Bay-Delta Plan intended to prioritize refuge water supplies. However, while the SacWAM results suggest that changes in Sacramento/Delta water supply to wildlife refuges under the 55 w/WSAs scenario and flow scenarios could be negligible, the analysis of impacts resulting from changes in refuge water supplies is complicated by Reclamation's past practice of reducing water supplies to Central Valley Project Improvement Act (CVPIA) wildlife refuges when it reduces allocations to Sacramento River settlement contractors; therefore, it is possible that reductions in Sacramento/Delta surface water supplies to wildlife refuges could at times be larger than indicated by the modeling.
318	28	Reservoir Storage The VA Alternative better maintains the ability of reservoirs to provide multiple benefits as compared to the 55% UIF scenario. Figure 10 [See Exhibit 10] illustrates the probability of exceedance for end-of-May, simulated storage in Shasta, Oroville, Folsom, and New Bullards Bar reservoirs for the baseline, VA Alternative, and 55% UIF scenario. The end-of-May storage is the reservoir condition at the end of the spring period when both the VA Alternative and the 55% UIF scenario can require increased releases and the start of the summer period when demands increase and reservoir storage is needed for water supply, temperature management, hydropower generation, and other uses. Results in Figure 10 show storage in the VA Alternative is higher at the end-of-May as compared to the 55% UIF scenario in three	Reservoir operations on different tributaries show differing results in response to the cold water habitat and the percent of unimpaired flow requirements in SacWAM because as explained in Chapter 2, Hydrology and Water Supply, some tributaries are more impaired under baseline conditions than others. Additionally, some reservoirs under baseline conditions are operated closer to the carryover storage targets identified to maintain cold water habitat than others, therefore some reservoirs required a larger change to meet the cold water habitat objective. The carryover storage requirements were not applied to the VA scenario. For a description of the VA scenario assumptions, please see Appendix G3a, Sacramento Water Allocation Model Methods and Results for the Proposed Voluntary Agreements, and Appendix H1a, Sacramento Water Allocation Model Methods. Lastly, the carryover storage targets were revised in the 2025 partially recirculated draft Staff Report based on comments and additional information provided by stakeholders. Please see Chapter 13, Revised Proposed Plan Amendments, and Appendix

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		of the four reservoirs across the full range of conditions and approximately 90% of the time in Shasta. Under the 55% UIF scenario, end-of-May storage in both Oroville and Folsom is significantly lower than either the baseline or the VA Alternative. Tables in DSR Appendix A6 summarize the effects of higher spring releases on downstream water temperatures later in the summer. These tables include A6-25 for the Sacramento River above Clear Creek, A6-41 for the Feather River below the Thermalito Afterbay, and A6-47 for the American River at Wat Avenue. Under the 55% UIF scenario, temperature impacts on the Feather and American rivers are more pronounced with median temperatures higher than the baseline from June through February. Figure 11 [See Exhibit 11] provides the same probability of exceedance for end-of-September, simulated storage in Shasta, Oroville, Folsom, and New Bullards Bar reservoirs for the baseline, VA Alternative, and 55% UIF scenario. Results for end-of-September or carryover storage show more differences across the four reservoirs. Carryover storage under the 55% UIF scenario is lower than the VA Alternative approximately 60% of the time in Shasta, but higher approximately 10% of the time because of the narrative cold-water habitat objective. Carryover storage in Oroville is lower approximately 50% of the time under the 55% UIF scenario. Carryover storage in Folsom is similar to baseline under both the VA Alternative and 55% UIF scenario. Carryover storage in New Bullards Bar reflects a fundamental change in the operation of that reservoir with a carryover storage target of 750 TAF in the 55% UIF scenario compared to 650 TAF in the baseline and VA Alternative.	H1a2, Sacramento Water Allocation Model Results for Revised Proposed Plan Amendments, for updated SacWAM results.
318	29	[Exhibit 10: A comparison of Baseline, 55% UIF, and VAs End-of-May Simulated Storage in Four Major Reservoirs in the Sacramento Valley]	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.
318	30	[Exhibit 11: Four graphs titled Figure 11. End-of-September Simulated Storage in Four Major Reservoirs in the Sacramento Valley]	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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318	31	Water Supply Water supply impacts of the VA Alternative are manageable and can be mitigated. The water supply impacts of the 55% UIF scenario are more than 2 million acre-feet in dry and critical years or approximately 23% of the baseline water supply in these years. The DSR includes information to summarize the water supply impacts of both the UIF scenarios and VA Alternative. This information is contained in Chapter 6, Tables 6.4-2 for the UIF scenarios, and Chapter 9, Tables 9.5-45 for the VA Alternative. These tables include the surface water supply changes within the Sacramento River/Delta area and includes areas that may be affected by the alternatives evaluated in the DSR. This is the largest geographic area where results are summarized. The DSR includes more detailed, regional results and results by agricultural, urban, and wildlife refuge use. Figure 12 [See Exhibit 12] compares the reductions in surface water supply under the VA Alternative and the 55% UIF scenario as reported in the DSR. As shown in Figure 12, the water supply impacts under the 55% UIF scenario exceed those under the VA Alternative by more than 2.1 million acre-feet (MAF) in critical and dry years, 1.8 MAF in below normal years, 1 MAF in above normal years, and 700 thousand acre-feet (TAF) in wet years.	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.
318	32	[Exhibit 12: Graph titled Figure 12. Average Annual Change in Water Supply for VA Alternative and 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.
318	33	Results are presented here for the largest geographic area because DSR Appendix A1 on the SacWAM model states the location of water supply impacts under the UIF scenarios may be different than SacWAM results though the overall magnitude of impacts is not expected to be substantially different (DSR Appendix A1, A1-19). Appendix A1 states the distribution between CVP and SWP contractors and areas located north and south of the Delta may be different (DSR Appendix A1, A1-19).	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding the scope, scale and application of SacWAM. Please see Common Response 6.2, Baseline and No Project Alternative, for a discussion on the project baseline, which was used to compare with all alternatives including the VA alternative.

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		The idea that the location of water supply impacts may be different than what was modeled is addressed in the subsequent section on the modeling of the UIF scenarios. The magnitude of surface water supply impacts is understated in the DSR for both the VA Alternative and the 55% UIF scenario shown in Figure 12 [See Exhibit 12]. The results for the VA Alternative shown in Figure 6 [See Exhibit 6] reflect changes in water supply from a baseline condition. Under the VA Alternative, the SacWAM model results show reductions in water supply in some areas and increases in Delta exports by the CVP and SWP, particularly in the months of April and May (see Figure 29 [See Exhibit 31] and Figure 31 [See Exhibit 33]). This is an outcome of the different assumptions made with respect to regulatory requirements for the SacWAM Baseline and VA Alternative. These simulated increases in Delta exports are not part of the VA Alternative but offset a portion of the water supply impacts expected under the VA Alternative and result in the 22 TAF increase in wet year water supplies shown in Figure 12. As described in the following section that provides results of CalSim 3.0 modeling of the VA Alternative, the VA Alternative includes reductions in CVP and SWP Delta export water supply (see Figure 30 [See Exhibit 32] and Figure 32 [See Exhibit 34]). This means the surface water supply impacts for the VA Alternative are underestimated in the DSR. The surface water supply impacts for the 55% UIF scenario are also underestimated in the DSR. Results reported in the DSR are developed from monthly model results of simulated water diversions in SacWAM. The SacWAM model calculates a monthly diversion requirement as the water necessary to meet crop evapotranspiration and maintain adequate soil moisture. If the simulated diversion is less than the diversion requirement, the SacWAM model simulated a soil moisture deficit that must be made up in future months if higher diversions are possible. The result is diversions that can exceed the baseline diversions in some months when prior month diversions were less than the simulated diversion requirement. Figure 13 [See Exhibit 13] illustrates this issue using monthly SacWAM diversions by all Sacramento River Settlement Contractors (SRSC) for the baseline and 55% UIF scenario.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding CVP allocations and obligations and deliveries.

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318	34	[Exhibit 13: Graph titled Figure 13. Example SacWAM Monthly Diversions by SRSC for Baseline and 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.
318	35	Figure 13 [See Exhibit 13] shows reductions in the monthly SacWAM diversions by SRSC in the 55% UIF scenario as compared to the SacWAM Baseline in June, July, and August. The maximum percent reduction is 32% in August. The SacWAM diversions for September are 40% higher in the 55% UIF scenario than the baseline due to the soil moisture deficit from prior months. When aggregated for the purpose of summary tables in the DSR, the increased September diversions offset a portion of the decreased diversions in the prior three months. This results in an underestimate of the surface water supply impacts reported in the DSR because additional deliveries, above the baseline deliveries, in months that follow reductions, provide minimal benefit for agricultural water users following three months of 20-30% reductions. The 55% UIF scenario would result in a loss of approximately the same percentage of the planted crops as the maximum monthly percent reduction in the water supply, 32% in August.	Figure 13 from the commenter's letter does not accurately represent SacWAM results. It is unclear which year or average of years within the 94-year simulation period are presented, and the data appears to be shifted by one month. The commenter's assertion that SacWAM delivers more water in the 55 scenario than baseline to make up for a soil moisture deficit carried over from previous months of shortage does infrequently occur. However, this should be considered a modeling artifact that occurs rarely within the SacWAM modeling and would not be expected to occur in reality, and the actual impact to the water user would be as presented in Chapter 6, Changes in Hydrology and Water Supply, and Chapter 7, Environmental Analysis, of the Staff Report. In reality, Reclamation would be expected to deliver the annual volume of water at a monthly pattern that is most beneficial to farmers, which would result in water supply impacts that are best estimated by the modeled change in annual deliveries as presented in the Staff Report. Overall, the environmental impacts from changes in water supply are appropriately evaluated and disclosed within Chapter 7 of the Staff Report. SacWAM is the best available, peer reviewed, water balance model to evaluate change water supply under different flow scenarios. Please see Appendix A1, Sacramento Water Allocation Model Methods and Results, for a detailed description of SacWAM and the model for the flow scenarios. Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for further discussion on using monthly timestep as an appropriate time scale for the analysis.
318	36	Benefits and Adverse Impacts Comparison Summary Analysis contained in the DSR demonstrates that the VA Alternative provides more benefits with less adverse impacts than the Proposed Plan Amendments.	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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		Table 1 provides a summary of benefits and adverse impacts of the VA Alternative compared to the 55% UIF scenario for the resource metrics described in the previous sections.	
318	37	[Exhibit 14: Table titled Table 1. Summary of Benefits and Impacts of VA Alternative versus 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.
318	38	III. Separate Analysis of VA Alternative Shows Additional Delta Outflow Separate modeling of the VA Alternative, performed by DWR, wherein the regulatory requirements remain consistent with those in the DWR baseline, show significantly more Delta outflow with the VA Alternative as compared to results set forth in the DSR. Analysis of the VA Alternative benefits that are based on Delta outflow are underestimated in the DSR. Our review of the CalSim 3.0 modeling does not indicate there would be any new, or more severe, environmental impacts of the VA Alternative. This section provides a comparative analysis of VA Alternative modeling conducted by SWRCB Staff using SacWAM with the modeling conducted by DWR using CalSim 3.0. The VA Alternative flow asset assumptions for SacWAM and CalSim 3.0 are from the 2022 Memorandum of Understanding (MOU), Appendix 1, Table 1a and 1b. The flow assets explicitly simulated in each model are similar with differences in the frequency of implementation of the American River VA flow assets; simulation of the Friant VA flow assets in CalSim 3.0 but not SacWAM; and Sacramento VA flow assets in critical years in CalSim 3.0 but not SacWAM. Differences in flow assets simulated in each model are relatively small and not the primary cause for the differences in results.	Please see Common Response 6.2, Baseline and No Project Alternative, for comments that raise concerns about the baseline. Additionally, please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding SacWAM VA scenario assumptions.
318	39	Comparison of SacWAM and CalSim 3.0 Results SacWAM modeling of the VA Alternative includes an assumption about changes in the regulatory requirements on Delta exports that is different from the assumption about such requirements contained in the SacWAM Baseline.	Please see Common Response 6.2, Baseline and No Project Alternative, for comments that raise concerns about the baseline. Additionally, please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding SacWAM VA scenario assumptions.

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		This section presents effects of the VA Alternative by comparing the changes in flows simulated by SacWAM and CalSim 3.0 models. Change in flows between the two models, calculated as the VA Alternative minus the respective baseline, are presented at key locations in the Sacramento Valley and Delta. Table 2 is a summary of average annual changes in flow and Delta exports under the VA Alternative as simulated in CalSim 3.0 and SacWAM. The SacWAM model outputs presented in this section correspond to the results reported in Appendix G3a of the DSR. Among the results summarized in Table 2, differences in Delta exports and Delta outflows between the two models are the most significant. CalSim 3.0 model results show an increase of 264 TAF per year of Delta outflow under the VA Alternative, while SacWAM model results show a reduction in Delta outflow of 4 TAF per year under the VA Alternative. These differences exist because of differences in assumptions about regulatory requirements contained in each model. SacWAM modeling of the VA Alternative includes an assumed change in the regulatory requirements for Delta exports from the regulatory requirements assumed in the SacWAM Baseline. This is a key difference and undermines the ability to understand the effects of the VA Alternative. The Agreements to Support Healthy Rivers and Landscapes do not include a change in regulatory requirements for Delta exports. Such regulatory requirements will be determined through other processes including Reclamation's ongoing re-consultation regarding the long-term operations of the CVP and SWP. The Agreements to Support Healthy Rivers and Landscapes will provide additional Delta outflow on top of the Delta outflow that occurs as a result of all other applicable regulatory requirements. Comparisons of the VA Alternative to a baseline with different underlying regulatory requirements is inappropriate and is contrary to standard industry practice in the engineering profession. In the engineering profession it is standard practice when performing technical analyses of an alternative to include only the components of that alternative in the analysis while keeping all other assumptions consistent with the baseline. Performing the analysis in this way ensures that the results of	

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		the analysis reflect only the changes attributable to the alternative. The addition of other changes to the model assumptions introduces confounding effects.	
318	40	[Exhibit 15: Table titled Table 2. Average Annual Flow Changes in TAF with CalSim 3.0 and SacWAM]	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.
318	41	As described in DSR Appendix A1 describing the SacWAM modeling, the SacWAM results are intended to be used in a comparative analysis to understand the incremental effects between two scenarios (DSR Appendix A1, A1-3). Comparative analyses are the standard practice in the engineering profession for evaluating model results such as those presented in the DSR. However, it is critical to ensure that these comparisons, such as the change between an alternative and the baseline, represents only the changes associated with the alternative. All other assumptions and inputs not specifically part of the alternative should remain consistent with the baseline.	The Staff Report indicates the baseline assumptions and the assumptions in the unimpaired flow and VA scenarios. Please refer to Chapter 6, Changes in Hydrology and Water Supply and Chapter 9, Proposed Voluntary Agreements, to review baseline assumptions and the assumptions of the alternatives analyzed.
318	42	Unlike SacWAM, the CalSim 3.0 modeling performed by DWR adheres to standard industry practice in that the analysis reflects only the changes attributable to the VA Alternative. Under the VA Alternative scenario in the CalSim 3.0 modeling performed by DWR, the underlying regulatory requirements are the same as in the CalSim 3.0 baseline. In order to understand the impact of the change in regulatory requirements in the VA Alternative scenario as modeled in SacWAM, it is helpful to compare the SacWAM modeling results for the VA Alternative with the CalSim 3.0 modeling results for the VA Alternative. Because of the change to regulatory requirements in the VA Alternative in SacWAM, the CalSim 3.0 modeling of the VA Alternative is a more useful comparative tool for analysis of Delta outflow. Analysis of the VA Alternative benefits that are based on Delta outflow and represented as a change from the baseline are underestimated in the DSR. However, it is unlikely the DSR is missing analysis of any expected environmental impacts of the VA Alternative.	Please refer to Common Response 6.2, Baseline and No Project Alternative, for responses to comments that raise issues with the baseline. Additionally, please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding SacWAM VA scenario assumptions.
318	43	[Exhibit 16: Graph titled Figure 14. Average Monthly Changes in Sacramento River Flow below Keswick with VA Alternative in CalSim 3.0]	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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318	44	[Exhibit 17: Graph titled Figure 15. Average Monthly Changes in Sacramento River Flow below Keswick with VA Alternative in SacWAM]	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.
318	45	Figure 14 [See Exhibit 16] and Figure 15 [See Exhibit 16] compare changes in flows at Keswick with the VA Alternative from SacWAM and CalSim 3.0. The SacWAM model shows higher flows at Keswick in April and May under the VA Alternative as compared to CalSim 3.0. The large magnitude difference in SacWAM is because the SacWAM VA Alternative excludes SJR I/E export restrictions in these months allowing greater release from Shasta for exports in April and May.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise significant environmental impacts of the project, or do not raise specific economic effects of the project. Additionally, please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding SacWAM VA scenario assumptions.
318	46	[Exhibit 18: Graph titled Figure 16. Average Monthly Changes in Sacramento River Flow near Wilkins Slough with VA Alternative in CalSim 3.0]	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.
318	47	[Exhibit 19: Graph titled Figure 17. Average Monthly Changes in Sacramento River Flow near Wilkins Slough with VA Alternative in SacWAM]	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.
318	48	Figure 16 [See Exhibit 18] and Figure 17 [See Exhibit 18] depict the changes in flows at Wilkins Slough with the VA Alternative between SacWAM and CalSim 3.0. As observed at Keswick, the SacWAM model indicates larger magnitude flow changes in April and May under the VA Alternative due to increased releases from Shasta for CVP exports. The reductions in flow simulated in both models for the months of December through March are a result of the Tisdale Weir notch project under the VA Alternative.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise significant environmental impacts of the project, or do not raise specific economic effects of the project.
318	49	[Exhibit 20: Graph titled Figure 18. Average Monthly Changes in Yuba River Flow near Marysville with VA Alternative in CalSim 3.0]	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.
318	50	[Exhibit 21: Graph titled Figure 19. Average Monthly Changes in Yuba River Flow near Marysville with VA Alternative in SacWAM]	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.
318	51	Figure 18 [See Exhibit 20] and Figure 19 [See Exhibit 21] illustrate the changes in Yuba River inflows into the Feather	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not

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		River. In CalSim 3.0, Yuba VA flow assets are allocated in April, May, and June during Above Normal, Below Normal, and Dry years. Conversely, in SacWAM, these flows are predominantly observed in April and May. Notably, SacWAM exhibits a decrease in Yuba River inflows between November and February.	raise significant environmental impacts of the project, or do not raise specific economic effects of the project.
318	52	[Exhibit 22: Graph titled Figure 20. Average Monthly Changes in Feather River Flow at the Sacramento River Confluence with VA Alternative in CalSim 3.0]	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.
318	53	[Exhibit 23: Graph titled Figure 21. Average Monthly Changes in Feather River Flow at the Sacramento River Confluence with VA Alternative in SacWAM]	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.
318	54	Figure 20 [See Exhibit 22] and Figure 21 [See Exhibit 23] show changes in Feather River flows at the confluence with the Sacramento River with the VA Alternative. Average annual flows in the Feather River are greater in CalSim 3.0 by 56 TAF as compared to SacWAM due to differences in Oroville releases to the river and the Yuba River contribution. Changes in April and May flows in the three years with VA flow assets are typically higher in SacWAM, but reductions in other months exceed those in CalSim 3.0.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise significant environmental impacts of the project, or do not raise specific economic effects of the project.
318	55	[Exhibit 24: Graph titled Figure 22. Average Monthly Changes in American River Flow at Natomas with VA Alternative in CalSim 3.0]	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.
318	56	[Exhibit 25: Graph titled Figure 23. Average Monthly Changes in American River Flow at Natomas with VA Alternative in SacWAM]	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.
318	57	Figure 22 [See Exhibit 24] and Figure 23 [See Exhibit 25] shows changes in American River flows at Natomas between the two models with the VA Alternative. The magnitude of monthly flow changes under the VA Alternative in the CalSim 3.0 model are smaller than those simulated in SacWAM.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise significant environmental impacts of the project, or do not raise specific economic effects of the project.
318	58	[Exhibit 26: Graph titled Figure 24. Average Monthly Changes in Sacramento River Flow at Hood with VA Alternative in CalSim 3.0]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of

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			the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
318	59	[Exhibit 27: Graph titled Figure 25. Average Monthly Changes in Sacramento River Flow at Hood with VA Alternative in SacWAM]	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.
318	60	Figure 24 [See Exhibit 26] and Figure 25 [See Exhibit 27] compare changes in Sacramento River inflow to the Delta with the VA Alternative from SacWAM and CalSim 3.0. The SacWAM model shows higher flows in April and May under the VA Alternative as compared to the CalSim 3.0 model for the reasons stated above relating to flows at Keswick and the Feather River. The CalSim 3.0 model shows increased flows in most months while the SacWAM model shows a mix of increased and decreased flows. On an average annual basis, CalSim 3.0 shows an approximately 35 TAF larger increase in the volume of Sacramento River inflow to the Delta in comparison to SacWAM.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise significant environmental impacts of the project, or do not raise specific economic effects of the project. Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for responses to comments that raise issues with the SacWAM VA scenario assumptions.
318	61	[Exhibit 28: Graph titled Figure 26. Average Monthly Changes in Yolo Bypass Flow with VA Alternative in CalSim 3.0]	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.
318	62	[Exhibit 29: Graph titled Figure 27. Average Monthly Changes in Yolo Bypass Flow with VA Alternative in SacWAM]	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.
318	63	Figure 26 [See Exhibit 28] and Figure 27 [See Exhibit 29] show changes in Yolo Bypass inflows into the Delta. Both models predict an average annual reduction in Yolo Bypass inflows under the VA Alternative but the CalSim 3.0 modeling shows less of a reduction to such inflows than the SacWAM modeling.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise significant environmental impacts of the project, or do not raise specific economic effects of the project.
318	64	[Exhibit 30: Graph titled Figure 28. Average Monthly Changes in CVP Exports at Jones Pumping Plant with VA Alternative in CalSim 3.0]	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.
318	65	[Exhibit 31: Graph titled Figure 29. Average Monthly Changes in CVP Exports at Jones Pumping Plant with VA Alternative in SacWAM]	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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318	66	Figure 28 [See Exhibit 30] shows a reduction in CVP exports under the VA Alternative as shown by the CalSim 3.0 modeling. Conversely, the SacWAM modeling shows an increase in CVP exports under the VA Alternative during April and May due to the assumed removal of San Joaquin River import/export (I/E) restrictions as shown in Figure 29 [See Exhibit 31]. The increased exports in April and May of most water year types under the VA Alternative, as modeled in SacWAM, is a result of an assumed change in regulatory restrictions on Delta exports contained in the SacWAM VA Alternative as compared to the SacWAM Baseline. Under the CalSim 3.0 modeling, average annual CVP exports are reduced by 57 TAF under the VA Alternative while CVP exports increase 58 TAF under the SacWAM modeling for the VA Alternative.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for responses to comments that raise issues with The SacWAM VA scenario assumptions. Additionally, please see Common Response 6.2, Baseline and No Project Alternative, for a discussion on the project baseline and the VA analysis.
318	67	[Exhibit 32: Graph titled Figure 30. Average Monthly Changes in Exports at Banks Pumping Plant with VA Alternative in CalSim 3.0]	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.
318	68	[Exhibit 33: Graph titled Figure 31. Average Monthly Changes in Exports at Banks Pumping Plant with VA Alternative in SacWAM]	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.
318	69	Figure 30 [See Exhibit 32] and Figure 31 [See Exhibit 33] show similar changes in Banks exports as shown above for CVP exports. The increased exports in April and May of most water year types under the VA Alternative in SacWAM is a result of the change in assumed regulatory restrictions on Delta exports in the SacWAM VA Alternative compared to the SacWAM Baseline. Average annual Banks exports in the CalSim 3.0 model are reduced 54 TAF under the VA Alternative while Banks exports increase 28 TAF in the SacWAM modeling.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise significant environmental impacts of the project, or do not raise specific economic effects of the project.
318	70	[Exhibit 34: Graph titled Figure 32. Average Monthly Changes in Delta Outflow with VA Alternative in CalSim 3.0]	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.
318	71	[Exhibit 35: Graph titled Figure 33. Average Monthly Changes in Delta Outflow with VA Alternative in SacWAM]	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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318	72	Figure 32 [See Exhibit 34] and Figure 33 [See Exhibit 35] illustrate the changes in Delta outflow under the VA Alternative for the two models. CalSim 3.0 modeling shows an average annual increase in Delta outflow under the VA Alternative of 264 TAF, with approximately 154 TAF more inflow from the Sacramento Valley and 110 TAF less Delta exports. Conversely, SacWAM modeling shows an average annual decrease in Delta outflow under the VA Alternative of 4 TAF, with approximately 119 TAF more inflow from the Sacramento River offset by reductions in Yolo Bypass inflows and an 86 TAF increase in Delta exports due to the difference in assumed regulatory restrictions on Delta exports between the VA Alternative and the baseline in SacWAM, as discussed above. Comparison of the VA Alternative to a baseline with different underlying regulatory requirements as occurred in the SacWAM modeling is inappropriate and confounds the understanding of the expected changes attributable to the VA Alternative, in this case underestimating the increases in Delta outflow attributable to that Alternative.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for responses to comments that raise issues with the SacWAM VA scenario assumptions. Additionally, please see Common Response 6.2, Baseline and No Project Alternative, for responses to comments that raise issues about the baseline.
318	73	IV. Unavoidable Impacts of Unimpaired Flow Requirements Current Conditions There are significant, real-world adverse impacts that would result from implementation of an unimpaired flow requirement of 45 to 65%. California water infrastructure, including the CVP, SWP, and local projects, were developed to address the state's seasonal contrast of wet winters and dry summers, lower winter demands and higher summer demand, and variable interannual precipitation. Figure 34 [See Exhibit 36] illustrates how storage facilities contribute to balancing water supply and demand. Runoff from late fall through early spring exceeds demand and allows a portion of the runoff to be diverted to storage in the state's existing reservoirs and aquifers. As runoff declines each spring and water demand increases, reservoirs transition from storing water to releasing water to meet the higher demand. This stored water meets a substantial portion of demand from late spring	Please see Chapter 6.3.2, Reservoir Storage and Elevation, of the Staff Report, which presents changes in reservoir storage for each alternative and Chapter 7, Environmental Analysis, which analyzes the impacts associated with changes in reservoir storage. Additionally, please see Chapter 13, Revised Proposed Plan Amendments, of the 2025 partially recirculated draft Staff Report for analysis of the revised proposed Plan amendments, which have much smaller impacts on reservoir storage.

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		through early fall in most years, resulting in reduced water shortages. Currently, runoff peaks in early spring, just a few months before demand reaches its peak in early summer. The unimpaired flow concept limits functionality of reservoirs to fulfill their intended purpose of shifting the availability of water in time and contradicts the fundamental principles of water supply management in California. UIF requirements at the levels of the PPA [Proposed Plan Amendments] cannot be implemented in California without significant adverse impacts. Unimpaired flow requirements in the PPA will require higher flows during periods when demands are typically low, meaning the requirements can only be met by reducing diversions to storage in reservoirs. The impacts to reservoirs are shown in the SacWAM modeling results in Figure 10 [See Exhibit 10], most notably for Oroville and Folsom.	
318	74	[Exhibit 36: Current Conditions of California Water Supply, Demands, and the Role of Storage (DWR, 2015)]	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.
318	75	Figure 35 [See Exhibit 37] is an example to illustrate the relationship between unimpaired flow requirements, existing flows, and demands for water on the American River. Figure 35 shows average monthly information from the SacWAM model for unimpaired flow requirements covering the range of the PPA for the Lower American River, average monthly and average critical year monthly Lower American River flows from the SacWAM baseline, and average monthly modeled total American River diversions. Average unimpaired flow requirements of 55% UIF are higher than existing flows during April and May by approximately 50 TAF per month. The total American River demands, primarily for M&I beneficial uses, during these same months are approximately 25 TAF. There is not enough American River demand to meet these flow requirements by reductions in deliveries; therefore, the only option is to reduce diversions to storage in Folsom. Although average existing flows are greater than unimpaired flow requirements from November through February and in June, there are many periods when diversions to storage must be reduced to meet unimpaired flow requirements.	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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318	76	[Exhibit 37: Graph titled Figure 35. Average Monthly Lower American River Flow, Percent of Unimpaired Flow, and Baseline American River Diversions]	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.
318	77	Figure 36 [See Exhibit 38] shows the additional Folsom releases to the Lower American River flow that would be necessary to meet unimpaired flow requirements. These increases were calculated by the difference in American River flow for periods when releases were made specifically to meet the UIF requirements. These increased flows must be satisfied by bypassing water that would otherwise be diverted to storage in Folsom. The resulting average drawdown is shown in Figure 36. The reduction in Folsom storage to meet unimpaired flow is generally greater than the total annual American River diversions. This demonstrates that it is not possible to meet the UIF requirements solely through a reduction in diversions, and the UIF requirements will adversely impact reservoir storage. In general, reduction in reservoir storage to meet unimpaired flow requirements will deplete cold water held in reservoirs, limit the ability to meet temperature objectives in the Lower American River, and reduce summertime hydropower generation. Similar impacts will occur at most reservoirs in the Sacramento River watershed.	Please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for a discussion on modeling and full implementation of the cold water habitat objective and impacts with implementation of the cold water habitat objective. Discussed in Common Response 7.6.2 are water temperature effects and actions to reduce these effects including those that could alter reservoir release temperature targets to maximize cold water use and prevent substantial reductions in hydropower generation during times of demand. 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.
318	78	[Exhibit 38: Graph titled Figure 36. Additional Folsom Reservoir Release to Meet Unimpaired Flow Requirements (SacWAM Unimpaired Flow Scenarios minus SacWAM Baseline)]	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.
318	79	Future Climate Change The real-world adverse impacts of an unimpaired flow requirement of 45 to 65% will exacerbate the effects of climate change and are not evaluated in the DSR. California's water supply infrastructure is designed to bridge the seasonal disparity between supply and demand. Projected climate conditions indicate a shift in the timing of runoff that will limit the ability to capture winter flows and create challenges in meeting summer demands. Findings from a 2015 [Footnote 3: California Climate Science and Data for Water Resources	Please refer to Common Response 4.2, Drought and Climate Change, for a discussion on the consideration of climate change within the impact analyses of the Staff Report. Also see Common Response 6.3, Water Supply and Other Water Management Actions, for more discussion on water supply impacts.

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		Management, California Department of Water Resources (DWR) 2015] DWR paper illustrate the shift in the seasonal timing of runoff that is currently underway and expected to continue with climate change. “The timing of runoff has changed in California’s largest water-supply watershed, the Sacramento River System, shifting to earlier in the season. Snowmelt provides an annual average of 15-million acre-feet of water, slowly released by melting from about April to July each year. Much of the State’s water infrastructure was designed to capture the slow spring runoff and deliver it during the drier summer and fall months.” Figure 37 [See Exhibit 39] is another figure from the 2015 DWR report that illustrates the shift in runoff occurring with climate change and the general effects of that shift on storage,flood control releases, and water shortage. Figure 37 illustrates the hydrologic changes expected in response to a warming climate, adding extra strain to water supply systems. The effects of climate change are seen by comparing Figure 37 that illustrates future conditions with climate change and Figure 34 [See Exhibit 36] that represents our current conditions. As peak runoff shifts earlier in the year, more reservoir inflow occurs when reservoirs are operated for flood management and there is an increase in the releases of water for flood control. This is particularly applicable in years with above average runoff (wetter years). This results in lower and earlier peak reservoir storage earlier in the year than peak demands. The result is increased shortage during the higher demand season with climate change than under current conditions and more challenges in managing water for beneficial uses. These are many of the same water management challenges that will occur with UIF requirements at the levels in the PPA; higher spring releases, lower reservoir storage and challenges managing water for all beneficial uses during the spring, summer, and fall seasons. With the timing of runoff under current conditions, there may be enough runoff in wetter years to meet UIF requirements and fill reservoirs, though the frequency of filling reservoir will be reduced. As shown in Figure 37, climate change will make filling reservoirs challenging in	

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		these wetter years such that the combination of both climate change and UIF requirements will create shortages and water management challenges in nearly all years.	
318	80	[Exhibit 39: Graph titled Figure 37. Future Conditions of California Water Supply, Demands, and the Role of Storage].	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.
318	81	The consequences of climate change in combination with UIF requirements are significant yet remain unanalyzed in the DSR. The DSR states, "There is great uncertainty of how global change may affect the local climate in the study area. Changes in sea level, wind, temperature, and precipitation all may have large effects on the hydrology and available water supply. SacWAM modeling of climate change is not included at this time because of the uncertainty and lack of detailed climate change information required to produce inputs to the model." While it is true that there is still considerable uncertainty regarding the magnitude and timing of future climate change, this is not an acceptable reason to not analyze the potential effects of such change. There are numerous technical approaches, regularly utilized by DWR, Reclamation, and others for incorporating the uncertainty of future climate change into the analysis of proposed projects. Several of these governmental bodies have developed detailed climate change information and utilized the information to produce inputs for other models such as CalSim 3.0.	Please see the response to comment 318-79 regarding the modeling of climate change effects in the final Staff Report.
318	82	The lack of a climate change analysis in the DSR raises fundamental questions about the adequacy of the DSR's analysis of the impacts that would result from implementation of the PPA. Climate change analysis has become an integral part of future planning in California as evidenced by Governor Newsom's Executive Order N-10-19 signed in 2019, to develop a "water resilience portfolio," described as a set of actions to build a more climate-resilient future for California. The Executive Order states: "Historical hydrological patterns can no longer serve water managers as a trustworthy guide around which to plan, so climate science and projections have become increasingly important. Future conditions will continue to change and require ongoing adjustment and adaptation by water managers. By focusing on diversifying water sources, improving storage and	Please see Common Response 4.2, Drought and Climate Change, for a discussion on the analysis of climate change impacts in the Staff Report.

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		management, and promoting conservation, the portfolio aims to build a more climate-resilient future for California and its water security." (California Water Resilience Portfolio, July 2020, DWR, page 15).	
318	83a	V. Key Deficiencies of DSR Lack of Implementation Plan and Wide Range of Proposed Plan Amendments The lack of an implementation plan and the wide range of potential actions for the Proposed Plan Amendments make it extremely difficult to understand the impacts of the Proposed Plan Amendments on reservoir operations, river flows, water deliveries, and Delta outflow. The lack of an implementation plan is the primary deficiency in the analysis of impacts of the PPA contained in the DSR. The standard process to evaluate changes in requirements like the alternatives to update the Water Quality Control Plan is to define the project, including how it will be implemented or operated, and then perform the analysis to understand the impacts. The DSR provides a summary of potential impacts but fails to describe how the PPA will be implemented beyond stating that many aspects of the implementation plan will be left to the discretion of SWRCB staff (DSR, DSR 5-16). Without a defined implementation plan it is impossible to determine the true nature and extent of impacts associated with the PPA, including whether the projected impacts are occurring within the correct geographic region or even the correct resource area. This is acknowledged in Appendix A1 which states that the distribution of water supply between CVP and SWP contractors and areas located north and south of the Delta may be different than modeled (DSR Appendix A1, A1-19). This statement is made in the context of uncertainty regarding how the CVP and SWP may respond to an UIF requirement, but the statement is broadly applicable to the results of the SacWAM modeling summarized in the DSR. In other words, without an implementation plan the nature, extent and geographic focus of impacts associated with the PPA cannot be adequately analyzed.	Please see the response to comment 318-5. Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report includes detailed sections on implementation that provide the information necessary for the Staff Report impact analyses. The impacts to reservoir operations, river flows, water deliveries, and Delta outflow were evaluated in Chapter 6, Changes in Hydrology and Water Supply, and Chapter 7, Environmental Analysis, of the Staff Report. The section of Appendix A1, Sacramento Water Allocation Model Methods and Results, referenced by the commenter concludes that "the overall effects on water supplies would not be expected to differ substantially." Also see Common Response 7.1, General CEQA and Approach to the Analysis, for more information on the CEQA analysis.

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318	83b	The PPA includes a range of potential UIF requirements. The DSR contains results from analyses across an even wider range of UIF percentages. Results include changes in flow, reservoir storage, water supply, and other metrics for discrete UIF percentages, i.e. 45%, 55%, 65%. Results are presented at a relatively high-level with the main document in boxplots, exceedance curves, and annual averages by water year type, and in appendices as average monthly values by water year type and cumulative distributions of monthly flows. These results provide information regarding the effects of a single percent UIF requirement, but not the adaptive range defined as the PPA. Results show a wide range of potential outcomes within the system. For example, Figure 38 illustrates the reductions in water supply for the range of UIF scenarios included in the PPA. These same data are included in tabular form in DSR Table 6.4-2. Results in Figure 38 [See Exhibit 40] show the average annual water supply impact for the PPA is within a range of 871 to 2,981 TAF. Review of changes in average annual Delta outflow (DSR Appendix A1, Table A1-103) show a similar range of increased Delta outflow from 736 to 2,623 TAF.	Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report includes detailed sections on implementation that provide the information necessary for the 2023 draft Staff Report impact analyses. The impacts on reservoir operations, river flows, water deliveries, and Delta outflow were evaluated in Chapter 6, Changes in Hydrology and Water Supply, and Chapter 7, Environmental Analysis, of the 2023 draft Staff Report. See Common Response 1.1, General Comments, for a discussion on release of the draft program of implementation after the 2023 draft Staff Report and Common Response 1.3, Revised Proposed Plan Amendments, for a discussion on the program of implementation as it relates to the revised proposed Plan amendments. Also, please see Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion on the level and scope of the analysis, which describes how the 2023 draft Staff Report adequately analyzed the range of potential actions under the proposed Plan amendments.
318	84	[Exhibit 40: Graph titled Figure 38. Range of Water Supply Impacts within Proposed Plan Amendment]	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.
318	85	The DSR provides some guidance regarding the decision-making process for determining what percentage of unimpaired flow may be required (DSR, 5-16). A lower percentage may be acceptable with voluntary implementation plans or if the State Board determines lower flows are needed to meet the narrative objective, including for reservoir storage. These statements do not provide sufficient detail to understand how to interpret the wide range of potential results or the criteria for how SWRCB staff will make their determinations.	The revised proposed Plan amendments would require that any adjustment to the numeric inflow requirement would be subject to public review and comment prior to a decision by the Executive Director or State Water Board, in conjunction with the annual and periodic review processes. Any decision also would be informed by best available scientific information. The revised proposed Plan amendments also include provisions for minimum human health and safety water supplies. The inflow objective was described in detail in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report. See Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, regarding the regulatory pathway implementation

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			of the inflow objective and local cooperative solutions (previously referred to as voluntary implementation plans).
318	86	Results of Drought Sequences The DSR does not provide information on effects of UIF requirements during multi-year drought periods. The DSR provides average water supply delivery changes by water year type and average changes in storage with exceedance probability charts, but this information is not adequate for understanding effects of the UIF scenarios during multi-year drought sequences. Statistics are helpful in providing high-level summaries of effects, but a detailed review of modeling is required to understand how the UIF scenarios may affect operations.	Please see Common Response 4.2, Drought and Climate Change, for responses to comments that raise issues with the analysis of multi-year droughts in the Staff Report.
318	87	To analyze impacts of UIF requirements in a multi-year drought period, several time-series charts were developed from SacWAM model results to demonstrate how operation of CVP and SWP reservoirs are affected by UIF requirements and cold-water habitat objectives. Figure 39 [See Exhibit 41] contains a chart of modeled monthly Shasta Lake storage for the SacWAM Baseline and 55% UIF scenarios and a chart of annual changes in CVP North and South of Delta delivery for water year 1922 through 1939. The red line in the storage plot represents Shasta Lake storage in the 55% UIF scenario and the blue line represents Shasta Lake storage in the SacWAM Baseline. The red bar in Figure 48 represents changes in South of Delta (SOD) CVP delivery and the orange bar represents changes in North of Delta (NOD) CVP delivery. During the second year of the simulation, water year 1923, Shasta Lake storage is reduced more than 800 TAF to satisfy 55% UIF requirements while there are no reductions in water supply. The drawdown of Shasta Lake in 1923 results in water supply impacts to both NOD and SOD CVP deliveries in 2024. During water years 1931 to 1935, Shasta Lake storage in the 55% UIF scenario is held higher than baseline, but large water delivery reductions are made to increase storage for the cold-water habitat objective. These differences in modeled operations for multi-year droughts are not identified or analyzed in the DSR.	Please see Common Response 4.2, Drought and Climate Change, for responses to comments that raise issues with the analysis of multi-year droughts in the Staff Report. Additionally, please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding SacWAM's scope, scale and application for a response to comments about the modeled operations of a reservoir for a single year of simulation.

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318	88	[Exhibit 41: Two graphs titled Figure 39. Shasta Lake Storage for SacWAM Baseline and 55% UIF and Annual CVP North and South of Delta Delivery Changes for SacWAM 1922-1938 Simulation Period]	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.
318	89	Figure 40 [See Exhibit 42] contains a chart of modeled monthly Oroville Reservoir storage for the SacWAM Baseline and 55% UIF scenarios and a chart of annual changes in SWP NOD and SOD delivery for water year 1922 through 1939. The red line in the storage plot represents Oroville Reservoir storage in the 55% UIF scenario and the blue line represents Oroville Reservoir storage in the SacWAM Baseline. The red bar in the delivery chart represents changes in SOD SWP delivery and the orange bar represents changes in NOD SWP delivery. Oroville Reservoir storage in the 55% UIF Scenario is almost always lower than the SacWAM Baseline. The average (1922-1938) monthly reduction in Oroville Reservoir is approximately 500 TAF and can be as large as 1.7 million acre-feet. The SacWAM operating criteria for Oroville Reservoir and the Feather River place higher priority on NOD SWP delivery than on storage, this results in prolonged periods of low storage in Oroville and annual reductions in SOD SWP deliveries of more than a million acre-feet. The DSR fails to identify or analyze these results in a multi-year drought.	Please see Common Response 4.2, Drought and Climate Change, for responses to comments that raise issues with the analysis of multi-year droughts in the Staff Report. Additionally, please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding carryover storage targets and SacWAM's reservoir buffer pools for a response to comments that raise issues with reservoir storage priority and carryover levels.
318	90	[Exhibit 42: Two graphs titled Figure 40. Oroville Lake Storage for SacWAM Baseline and 55% UIF and Annual CVP North and South of Delta Delivery Changes for SacWAM 1922-1938 Simulation Period]	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.
318	91	Figure 41 [See Exhibit 43] contains a chart of modeled monthly Folsom Lake storage for the SacWAM Baseline and 55% UIF scenarios and a chart of annual changes in CVP NOD and SOD delivery for water year 1922 through 1939. The red line in the storage plot represents Folsom Lake storage in the 55% UIF scenario and the blue line represents Folsom Lake storage in the SacWAM Baseline. The red bar in the delivery chart represents changes in SOD CVP delivery and the orange bar represents changes in NOD CVP delivery, the CVP deliveries are the same as those in Figure 39 [See Exhibit 41]. Folsom Lake storage is lower in the 55% UIF scenario than the baseline is almost all winter and spring periods during this multi-year drought period. The DSR fails to identify or analyze these results.	Please see Common Response 4.2, Drought and Climate Change, for responses to comments that raise issues with the analysis of multi-year droughts in the Staff Report. Additionally, see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding carryover storage targets and SacWAM's reservoir buffer pools for a response to comments that raise issues with reservoir storage priority and carryover levels.

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318	92	[Exhibit 43: Two graphs titled Figure 41. Folsom Lake Storage for SacWAM Baseline and 55% UIF and Annual CVP North and South of Delta Delivery Changes for SacWAM 1922-1938 Simulation Period]	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.
318	93	Figure 42 [See Exhibit 44] and Figure 43 [See Exhibit 45] contain changes in total annual CVP and SWP delivery in the 55% UIF scenario relative the SacWAM Baseline. Data in these figures are consistent with DSR Table A1-496 and Table A1- 520. There are sequences of years with reductions in water deliveries that exceed a million acre-feet for each project and individual years when reductions exceed 1.5 million acre-feet. The DSR does not address the effects of these prolonged delivery reductions.	Please see Chapter 6.4, Changes in Surface Water Supply, of the Staff Report, which presents changes in water supply for each alternative and Chapter 7, Environmental Analysis, which analyzes the impacts associated with changes in water supply for agriculture and municipal users. Additionally, please see Chapter 13, Revised Proposed Plan Amendments, of the 2025 partially recirculated draft Staff Report for analysis of the revised proposed Plan amendments, which have much smaller impacts on water supply.
318	94	[Exhibit 44: Graph titled Figure 42. Change in Annual Total CVP Delivery under 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.
318	95	[Exhibit 45: Graph titled Figure 43. Change in Annual Total SWP Delivery under 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.
318	96	Analysis for Modular Alternatives The DSR describes several modular alternatives but provides limited model results for only one modular alternative and relies on qualitative descriptions of effects for the other modular alternatives. The DSR includes descriptions of several modular alternatives in Chapter 7. Modular alternatives 4a, 4b, and 4c for interior flows/fall Delta outflow may be used in combination with the PPA or other flow alternatives (DSR, 7.24-34). Modular drought alternatives (5a and 5b) could be adopted in combination with PPA, other flow alternatives, or VA Alternative (DSR, 7.24-47). Modular alternative 6a is for the protection of VA flows and could be adopted with the VA Alternative (DSR, 9-199).	The modular alternatives were adequately analyzed in Staff Report Section 7.24, Alternatives Analysis, and Section 9.9, Modular Alternatives for Proposed VAs. As explained in Section 7.24, the environmental impacts of each of the modular alternatives are evaluated in isolation compared with existing conditions to properly characterize changes that could occur from each modular alternative, as distinguished from impacts of the stand-alone alternatives. Some discussion of the impacts of each modular alternative in combination with the proposed Plan amendments, other flow alternatives, and proposed VAs is also provided. See Common Response 7.24, Alternatives Analysis, for more information on the analysis of alternatives.
318	97	DSR sections 7.24 and 9.9 contain qualitative descriptions of the effects on flows, reservoir levels, water supply, and economics	Please see the response to comment 318-96.

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		for the modular alternatives. Based on results presented in Tables 7.24-2 through 7.24-5, it appears modular alternative 4a was modeled in SacWAM to simulate the effects of removing the SJR I/E restriction on Delta exports. There are no other model results presented for any of the other modular alternatives and no explanation for why modular alternative 4a was modeled, but other modular alternatives were not modeled.	
318	98	Modular alternative 4c, that would extend the SJR I/E restrictions on Delta exports from February through June, and the modular drought alternatives have significant implications to flows, reservoir levels, and water supply. For example, the limited model results for modular alternative 4a contained in Table 7.24-2 show the removal of the SJR I/E ratio in April and May would decrease average annual Delta outflow by 218 TAF from the SacWAM Baseline and increase Delta exports by 237 TAF (Table 7.24-4). Modular alternative 4c would extend the SJR I/E ratio to the months of February, March, and June but no model results are presented in the DSR for this modular alternative. Effects to water supply for modular alternative 4c are described as “potentially significant impacts” (DSR, 7.24-45). Modeling should be performed for this modular alternative to understand the impacts in combination with the alternatives that may include it.	Please see the response to comment 318-96. As stated in Section 7.24.5.3, Extended Export Constraint (Alternative 4c), of the 2023 draft Staff Report, the Extended Export Constraint Alternative would result in reduced water supply for agricultural, municipal, and wildlife refuge uses. These effects would primarily occur in areas receiving Sacramento/Delta water supplies that are exported from the Delta to the San Francisco Bay Area, Central Coast, San Joaquin Valley, and southern California. However, some changes in Sacramento/Delta water supply are also possible within the Sacramento/Delta watershed.
318	99	There are no model results presented for the two modular drought alternatives, but the effects on water supply are described as “potentially significant impacts” (DSR, 7.24-49 and 7.24-51). Modeling and analysis are needed to understand the magnitude and location of these potential impacts because these modular alternatives are focused on actions during droughts periods of limited supply and may be adopted in combination with any of the alternatives in the DSR.	Please see the response to comment 318-96. As explained in the analysis, the Instream Flow Protection Provision could reduce to some degree the water supply impacts to the Projects and their contractors and to carryover storage in Project reservoirs which may redistribute water supply impacts to some degree for other individual diverters during drought conditions. This could result in potentially significant impacts on certain water users, including more junior water diverters that do not currently have Term 91 in their water rights. If implemented in combination with the proposed Plan amendments or other flow alternatives, or proposed VAs, the Instream Flow Protection Provision Alternative could result in reduced water supplies for individual water users at times during drought conditions, but the types of impacts and significance determinations would remain similar to those made without the Instream Flow Protection Provision Alternative. The Shared Water Shortage Provision Alternative would require all water right holders and claimants in the

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			Sacramento/Delta watershed to conserve water in order to contribute toward meeting the Bay-Delta Plan objectives. This provision would distribute the effects of Sacramento/Delta surface water supply shortages among a larger group of surface water diverters when this provision is in effect under drought conditions (including during declared drought emergencies). This would help to reduce concentrated water supply shortage effects on specific surface water diverters who would have been fully curtailed in the absence of this provision. However, the Shared Water Shortage Provision Alternative could result in water supply impacts on certain surface water diverters who would otherwise not be required to conserve water in order to contribute toward meeting the Bay-Delta Plan objectives in the absence of this provision.
318	100	VI. Review of SacWAM Modeling of UIF Requirements SacWAM model scenarios performed by SWRCB staff encompass a range of potential instream flow changes in increments of ten, from 35 percent up to 75 percent unimpaired flow. Potential impacts due to imposition of unimpaired flow requirements throughout the Sacramento River Basin and Delta are assessed by comparing SacWAM unimpaired flow scenarios to the SacWAM Baseline. Although the DSR presents high level summaries of the comparison of UIF scenarios, many key effects due to imposition of unimpaired flows cannot be determined from a high level summary. Therefore, MBK has conducted a detailed review of SacWAM scenarios in order to better understand the anticipated impacts. The detailed review of SacWAM scenarios included review of water operations criteria based on simulation results including changes in reservoir operations, changes in water delivery, changes in flow through the Bay-Delta watershed, and other key water operation parameters.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding the scope, scale and application of SacWAM.
318	101	Inconsistent Implementation of Proposed Plan Amendments on Different Rivers Differences in how the UIF requirements and narrative cold water habitat objective are modeled on different river systems within the Sacramento Valley result in disproportionate impacts within the Sacramento Valley, North and South of Delta, and between the CVP and SWP.	Please see the response to comment 318-8.

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		There are differences in how the UIF requirements and narrative cold water habitat objectives are modeled in SacWAM for the Sacramento, Feather, and American rivers. The narrative cold water habitat objective is implemented more aggressively at Shasta Lake resulting in reductions in diversions to the SRSC to maintain water in storage while meeting the UIF requirements downstream of Shasta and Keswick. The narrative cold water habitat objective is less restrictive on the Feather and American rivers resulting in lower reservoir storage but fewer diversion reductions to Feather River service area diversions. Oroville storage in the 55% UIF scenario is approximately 615 TAF lower in May than the SacWAM baseline, while Shasta storage in the 55% UIF scenario is approximately 178 TAF lower in May than the SacWAM baseline (see Figure 10 [See Exhibit 10]). Although temperature management is impacted in both the Sacramento and Feather Rivers as shown above in Figure 5 [See Exhibit 5] and Figure 6 [See Exhibit 6], average storage reduction in Oroville storage is 437 TAF more than reduction in Shasta storage. The lower storage in Oroville results, in part, in the reduced deliveries to South of Delta SWP contractors whereas most of the CVP water supply impacts are North of Delta. To illustrate the difference in the modeled implementation of UIF requirements and the cold water habitat objective, Table 3 [See Exhibit 46] is a summary of the average annual change in water deliveries to different geographic regions of the CVP and SWP for the 45, 55, and 65% UIF scenarios. Table 4 [See Exhibit 47] provides the percent of the total changes that occur in regions North of Delta and South of Delta for each project. For example, the annual average reduction in North of Delta CVP deliveries in the SacWAM 55% UIF scenario compared to the SacWAM Baseline is 296 TAF and the average annual reduction in CVP total delivery is 528 TAF; therefore, 56% of CVP water supply impact is North of Delta. By comparison, the annual average reduction in SWP North of Delta deliveries in the SacWAM 55% UIF scenario compared to the SacWAM Baseline is 29 TAF (22 TAF reduction to SWP Feather River Service Area plus 7 TAF reduction to SWP Table A North of Delta) and the average annual reduction in SWP total delivery is 710 TAF; therefore, 4% of SWP water supply impact north of the Delta.	

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318	102	[Exhibit 46: Table titled Table 3. Average Annual Change in Water Delivery under Percent UIF Requirements Compared to SacWAM Baseline in TAF]	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.
318	103	[Exhibit 47: Table titled Table 4. Distribution of SacWAM Changes in CVP and SWP Water Delivery to North and South of Delta]	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.
318	104	Variation in the implementation of UIF requirements and cold-water habitat objective on upstream tributaries alters the burden of meeting UIF requirements in the Delta between the CVP and SWP. Although SacWAM operates each tributary independently to meet unimpaired flow requirements on each tributary, SacWAM applies the Coordinated Operations Agreement (COA) sharing percentages to allocate responsibility for meeting UIF requirements in the Delta to the CVP and SWP. The differences on where water supply impacts occur, whether North of Delta or South of Delta, for each projects affect COA and the water supply of each project.	Please see the response to comment 318-8.
318	105	SacWAM Priorities and Operations Inconsistent with Policies and Contracts SacWAM model results demonstrate that UIF scenarios include model operations that are inconsistent with U.S. Bureau of Reclamation policies and contract obligations. A failure to accurately simulate Reclamation policies and contract obligations result in modeled water supply impacts and associated reservoir operations that are inconsistent with actual system operations. Real-time operation of the California water system is affected by myriad operating criteria from SWRCB, U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, Divisions of Safety of Dam, US Army Corps of Engineers, Federal Energy Regulatory Commission, and others. In addition to state and federal operating requirements, there are numerous contracts, policies, and agreements that govern distribution of water supply throughout the State and prioritize place of use, type of use (M&I, agriculture, hydropower, fish and wildlife, etc.), season of	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding the scope, scale and application of SacWAM and CVP allocations and obligations.

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		use, sharing of supply, responsibility for meeting requirements, and more. All these operating criteria, contracts, policies, agreements, and water distribution priorities affect operation of California's reservoirs, river flows, and water infrastructure to meet the multiple beneficial uses. Models of the California water system that intend to assess effects of proposed actions must operate in a manner that adheres to all operating criteria, contracts, policy, agreements, and priorities governing the system. If models abide by these operating requirements, then models may be helpful in assessing effects of proposed actions and if models do not properly follow procedures governing actual operations then model results are unreliable for assessing effects of proposed actions. Compliance with actual operating criteria when modeling proposed unimpaired flow requirements is essential to determining if model results are reliable; therefore, SacWAM model results are reviewed to assess if the model results are applicable to actual system operations. The following sub-sections provide three examples of how the SacWAM model operations are inconsistent with policies and operational criteria.	
318	106	Sacramento Settlement Contract Reduced Diversions and CVP Water Service Cuts The United States Bureau of Reclamation (Reclamation) allocates water supplies based on their "Central Valley Project Municipal and Industrial Water Shortage Policy Guidelines and Procedures" (CVP M&I WSP). For analysis to adequately assess effects of UIF requirements, modeling must follow the priorities, contracts, policies, and procedures Reclamation uses in real-time operations. If simulated implementation of UIF requirements does not follow the CVP M&I WSP then modeled water delivery impacts and associated reservoir operations will be inconsistent with actual system operations. SacWAM water allocations and deliveries to various CVP water users is reviewed to assess compliance with actual operating contracts and policy. To review model compliance with current operating procedures, modeled	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding CVP allocations and obligations.

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		deliveries to various CVP water users are compared in UIF scenarios.	
318	107	Figure 44 [See Exhibit 48] contains annual CVP North of Delta water service contract deliveries (blue bars) and SRSC delivery changes (red bars) in the 55% UIF scenario. The 22 black arrows in Figure 44 indicate years when SRSC reductions are more than 20 TAF and water service contract deliveries exceed 40 TAF (which for purposes of this analysis represents an estimate of annual North of Delta public health and safety (PH&S) deliveries). In real-time operations, Reclamation operates to meet the SRS Contracts before allocating water to CVP water service contractors, but there are years when SRSC deliveries are reduced while water service contract delivery is greater than PH&S amounts. This modeled inconsistency with actual operating criteria affects the integrated operation of the CVP and SWP and alters the location of water delivery impacts, reservoir operational changes, river flow changes, and environmental effects.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding CVP allocations and obligations.
318	108	[Exhibit 48: SacWAM Reductions in Sacramento River Settlement Contractors Diversions Due to 55% UIF Requirement and CVP NOD Walter Service Contract Delivery in 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.
318	109	Sacramento Settlement Contract Reduced Diversions and Shasta Release for CVP Export As shown in Figure 44 [See Exhibit 48], SRSC diversions are reduced by 100 TAF or more in 38 out of 94 years simulated in SacWAM or approximately 40% of years. In years when SRSC diversions are reduced, simulated releases from Shasta to support CVP Delta exports should be limited to releases necessary to maintain minimum PH&S exports. An analysis was performed to calculate simulated Shasta releases to support CVP Delta exports by post- processing SacWAM results from the 55% UIF scenario. Figure 45 [See Exhibit 49] contains annual Shasta releases in excess of Sacramento River requirements that support CVP Delta export at Jones in the 55% UIF scenario (green bars), SRSC delivery reductions in the 55% UIF scenario (red bars), and the black tick marks are the difference between Shasta releases for export	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding CVP allocations and obligations.

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		minus SRSC delivery reductions. Positive differences (black tick marks greater than zero) indicate that Shasta releases for export are greater than SRSC delivery reductions. In actual operations, Shasta releases for export would be reduced before reducing SRSC delivery. If differences are negative (black tick mark less than zero) then exports could be reduced by the difference between the red bar and the tick mark. These operating criteria tend to underestimate South of Delta CVP delivery reductions, overestimate SRSC delivery reductions, and have implications for SWP water supplies because of COA.	
318	110	[Exhibit 49: Graph titled Figure 45. SacWAM Results from 55% UIF Scenario for Reduced SRSC Delivery and Shasta Lake Release for CVP Export]	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.
318	111	CVP South of Delta Operations and Allocations South of Delta, or Delta export service area, CVP water deliveries are also subject to the CVP M&I WSP. This policy places higher water delivery priority on PH&S, San Joaquin River Exchange Contractors (Exchange Contractors), and delivery to National Wildlife Refuges. Figure 46 [See Exhibit 50] contains annual South of Delta CVP water service contract deliveries in the 55% UIF scenario (blue bars) and Exchange Contractors delivery reduction (red bars) in the 55% UIF scenario. Black arrows are shown in a total of 44 years indicate when Exchange Contractor delivery reductions are more than 20 TAF and water service contractors are receiving more than 40 TAF. Exchange Contractor deliveries have a higher diversion priority than CVP water service contractors, but there are years when Exchange Contractors are reduced while water service contractor delivery is greater than assumed PH&S amounts. In these same years there are also reductions in simulated deliveries to South of Delta CVP refuges while water service contractor delivery is greater than assumed PH&S amounts. This is inconsistent with actual CVP operational criteria. Inconsistency with Reclamation contracts and policy results in underestimating delivery impacts to the west side of the San	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding CVP allocations and obligations.

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		Joaquin Valley and urban deliveries in the Santa Clara region. Reclamation contracts for Friant Division operations require releases from Friant Dam on the San Joaquin River to meet Exchange Contractor deliveries when Exchange Contracts cannot be met from the Delta. Therefore, when modeled deliveries to the Exchange Contractors do not follow contracts and policies it is not possible to assess the potential impacts to the CVP Friant Division Contractors (Fria). This inconsistency between the model and actual operating criteria alters the location of water delivery impacts.	
318	112	[Exhibit 50: Graph titled Figure 46. SacWAM Reductions in CVP Exchange Contract Diversions Due to 55% UIF Requirement and CVP SOD Water Service Contract Delivery in 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.
319	1	By this comment letter, South Sutter wishes to express its support for, and intent to participate in, the Agreements to Support Healthy Rivers and Landscapes [Footnote 1: 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) alternative contemplated in the DSR. South Sutter urges the State Water Board to approve and enhance that alternative as the program of implementation for the Bay-Delta Plan. Described in greater detail below, the unimpaired flow scenarios contemplated in the DSR would severely impair South Sutter's ability to store and distribute Bear River water via Camp Far West Reservoir in certain years, which would in turn have significant adverse effects on water users and groundwater sustainability within South Sutter's service area.	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.
319	2	In 2017, South Sutter engaged with representatives from the California Department of Fish and Wildlife (CDFW) to develop a flow proposal for South Sutter that would work as a viable alternative to a regulatory flow approach. Over the past two years, South Sutter has regularly met with representatives from the Department of Water Resources (DWR) to refine its proposed plan to join the Healthy Rivers Agreements, under which South Sutter would contribute flows to the Bear River to help meet the water quality objectives of the updated Bay-Delta Plan (Proposal). Enclosed herewith [ATT 1], South Sutter submits a proposed draft amendment to the March 29, 2022	Please see Staff Report Chapter 13, Revised Proposed Plan Amendments, and Common Response 1.3, Revised Proposed Plan Amendments, for information on the VA pathway.

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		Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan (VA MOU), which South Sutter and DWR developed to serve as a term sheet for South Sutter's participation in the Healthy Rivers Agreements. The Proposal and term sheet demonstrate South Sutter's vested interest in collaboration and making a material flow contribution on the Bear River that will help achieve the biological goals of the Bay-Delta Plan.	
319	3	Background South Sutter Water District and the Bear River Watershed The Bear River originates in the Sierra Nevada Mountains near Emigrant Gap and, by way of the Feather River, terminates in the Sacramento River near Nicolaus. South Sutter is located along the lower reaches of the Bear River and was formed in May 1954 to develop, store, and distribute surface water supplies for irrigation use and incidental hydroelectric power generation. South Sutter's service area includes 57,300 acres of land, of which approximately 42,000 acres are used for irrigated agriculture from the toe of the Sierra Foothills to the heart of the Sacramento Valley. South Sutter owns and operates the Camp Far West Reservoir, which was enlarged in 1964 to a storage capacity of 104,400 acre-feet. The principal purpose of the enlarged Camp Far West Reservoir was to develop a supplemental surface water supply to address a declining groundwater table in the North American Subbasin, Sacramento Valley Basin, DWR Subbasin No. 5-021.64 ("North American Subbasin") within South Sutter's service area. Water from Camp Far West Reservoir supplements the native groundwater supply each year resulting in what is, in essence, a significant conjunctive use project. Over the years, South Sutter's operation of Camp Far West Reservoir has been a critical tool for replenishing groundwater levels and achieving sustainability. Pursuant to the 2014 Sustainable Groundwater Management Act, South Sutter elected to become the exclusive groundwater sustainability agency (GSA) within its boundaries and partnered with other GSAs in the watershed to develop, prepare, 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.

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		implement the groundwater sustainability plan for the North American Subbasin. The Bear River watershed is a flashy, rain-fed system that results in Camp Far West Reservoir filling and spilling in most years. Testimony during the Decision 1641 water right hearings to implement the 1995 Bay-Delta Plan identified the “hostile” environment of the Bear River in relation to fish populations. It was noted that the Lower Bear River has a “unique problem unlike many other Central Valley rivers and streams with large reservoirs, in that the Camp Far West Reservoir really doesn’t store a large amount of the very severe flood flows.” (Testimony of D. Vogel, 1998 Bay-Delta Water Rights Hearing Transcript, Phase VIII, April 11, 2000, at pp. 16854-16856.) Due to its variable hydrology, lack of spawning substrate, and high temperatures in early fall months, the lower Bear River is generally not viable to the natural production of fallrun Chinook salmon, steelhead trout, and American shad. (Id.) Such conditions limit the opportunities for fish survival and require that released flows be coordinated to avoid attracting salmonids to the Lower Bear River. During the irrigation season, the natural channels, some of which have been improved to convey agricultural water, contain negligible amounts of natural stream flow and convey agricultural irrigation water provided from South Sutter’s main conveyance canal. Water released from Camp Far West Reservoir is rediverted from the Bear River, approximately 13 miles downstream from the Camp Far West Dam, into the District’s conveyance canal system that runs predominantly north to south along the higher eastern border of the District, and is ultimately distributed to more than 200 water users in Sutter and Placer counties. The full annual available water supply from Camp Far West Reservoir is allocated each year, while a full reservoir only represents about one half of water users’ demands in average and above water year types. In spite of the water supply challenges on the Bear River, South Sutter has a proven track record of environmental stewardship within the watershed. In addition to its successful efforts to achieve groundwater sustainability in the North American	

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		Subbasin, South Sutter provides up to 4,400 acre-feet of stored water from Camp Far West Reservoir in certain years to help fulfill the existing water quality objectives, pursuant to a Bay-Delta Settlement Agreement (BDSA) with DWR. In Water Right Decision 2000-10, the State Water Board determined that the BDSA satisfied the responsibilities of all Bear River watershed water rights to meet the water quality objectives of the 1995 Bay-Delta Plan. (WR 2000-10, pp. 7-8.) During the period of 2001 through 2023, there have been 11 years when South Sutter released water pursuant to the BDSA, for a total of approximately 48,400 acre-feet. The 4,400 acre-feet amount reflects the Bear River's commensurate level contribution to the entire unimpaired flow of the Sacramento River, and serves as the basis for South Sutter's Healthy Rivers Agreement Proposal.	
319	4	The Unimpaired Flow Scenarios Would Cause Adverse Effects in the Bear River The proposed updates to the Bay-Delta Plan in the DSR contemplate substantial and uncertain changes to the watersheds of tributaries to the Sacramento River under the unimpaired flow scenarios, including the Bear River. Chapter 6 of the DSR describes, "[u]nimpaired flow requirements in the scenarios require more flow to remain in the Middle and South Fork Yuba River; therefore, less water is diverted to the Bear River. With less Yuba River water supplementing the flow of the Bear River, streamflows above Camp Far West Reservoir are lower, and the flows on the Lower Bear River above the Feather River are also generally lower." (DSR, p. 6-16.) The DSR acknowledges that changes in flows to the Bear River and reduced reservoir storage could result in additional environmental effects pertaining to "energy, biological resources, aesthetics, and recreation," but suggests without substantial evidence that changes could be "potentially smaller" depending on certain Plan amendments or implementation. (DSR, p. 6-32.)	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 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 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. Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, provides a detailed description of the cold water habitat objective implementation.
319	5	South Sutter's engineering consultants at MBK Engineers have reviewed the range of unimpaired flow scenarios described in the DSR, from 35% to 75%, and their effect on flows and storage in the Bear River. According to the DSR, Camp Far West Reservoir storage would experience significant reductions in storage due to January through June flow decreases into the Bear River of	Table 6.4-5 of the draft Staff Report presents the SacWAM results for changes in water supply by year type for each scenario for the Sacramento River Watershed which encompasses South Sutter Water District. The results in Table 6.4-5 for the region are similar to the percent reduction presented by the commenter for the individual water district. Please see Common Response 6.1,

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		8,000 acre-feet, 23,000 acre-feet, and 54,000 acre-feet in the 35%, 55%, and 75% unimpaired flow scenarios, respectively. (DSR, p. 6-16 to 6-17.) Even within the proposed adaptive range of 45% to 65%, the DSR discounts reductions to storage in the modeled unimpaired flow scenarios that will likely render South Sutter unable to effectively operate Camp Far West to support its water users and conjunctive use project in certain years. Below is a figure [Exhibit 1] summarizing the modeling under the DSR's proposed 55% unimpaired flow level across year types and its resultant effect on agricultural diversions at Camp Far West Reservoir by South Sutter and Camp Far West Irrigation District. The bars represent average impact by water year type and the dots represent the range of impact by water year type. Overall, the average annual reduction in available water supplies in Camp Far West Reservoir is approximately 11,000 acre-feet. In critical years the impacts are even greater, with an average loss of about 20,000 acre-feet and a potential single-year reduction of about 55,000 acre-feet. At Camp Far West Reservoir's current capacity, an average reduction of 20,000 acre-feet represents a roughly 21% decrease in South Sutter's diversions during critical years.	Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding the interpretation of impacts on individual water users using results from the SacWAM modeling presented in the draft Staff Report.
319	6	[Exhibit 1: Graph titled Figure 1: Water Years 1922-2015 reduced Bear River diversions by Camp Far West ID and South Sutter WD under a 55% UIF for each water year type]	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.
319	7	Article X, section 2 requires that there be a reasonable relationship between a beneficial use and the water that it demands. (See <i>Tulare Irr. Dist. v. Lindsay-Strathmore Irr. Dist.</i> (1935) 3 Cal.2d 489, 523-525, 547; Cal. Const., Art. X, § 2 ["The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water."].) The environmental uses contemplated by in the unimpaired flow scenarios are subject to the same rule: "[a]ll uses of water, including public trust uses, must now conform to the standard of reasonable use." (National Audubon Society v. Superior Court (1983) 33 Cal.3d 419, 443.) The DSR overestimates the undefined benefits of an unimpaired flow approach, while failing	Article X, Section 2 of the California Constitution acts as a constitutional prohibition on the waste and unreasonable use of water. However, contrary to this commenter's assertion, the unimpaired flow requirements analyzed in the Staff Report do not amount to waste or unreasonable use of water. The State Water Board has the authority to protect beneficial uses against water quality degradation, including fish and wildlife beneficial uses. (Wat. Code, §§ 13050, subdivision (f), 13241.) In the State Water Board's considerations of various public interests, the State Water Board must evaluate the proper balance between water supply and water quality and determine what is reasonable. (United States v. State Water Resources Control Bd., supra, 182 Cal.App.3d at p. 130.) "The decision is essentially a policy judgment requiring a balancing of the competing public interests, one the [State Water] Board is uniquely qualified to make in view of its special knowledge and expertise and its

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		to address the outsized impact that reduced water supplies will have on tributary watersheds such as the Bear River. The DSR does not adequately demonstrate a reasonable relation between the effectiveness of the proposed unimpaired flow objectives and the purported beneficial impacts to native fish species.	combined statewide responsibility to allocate the rights to, and to control the quality of, state water resources. (§ 174.)” (Ibid.) The benefits of the unimpaired flow scenarios are documented in Chapter 3 of the Staff Report and further explained in Common Response 3.1, Fish Protection. As discussed in Chapter 3 of the Staff Report, suitable flows are a critical element of protection and restoration of fish and wildlife resources. Staff Report Section 3.14, Evaluation of Bay-Delta Environmental Flow Effects, demonstrates significant benefits to adopting new flow requirements, including improved estuarine habitat, greater expected population abundances, increased outmigration success, increased floodplain inundation, and improved flow conditions for native fishes in the interior Delta. Please see Common Response 1.2, Water Quality Control Planning Process, for information on reasonable protection of fish and wildlife beneficial uses, and for the State Water Board’s authority to prevent waste and unreasonable use under Article X, Section 2 of the California Constitution. Adopting a set of carefully considered water quality objectives (and the program of implementation designed to achieve those objectives) to support aquatic ecosystem conditions and prevent the further deterioration of water quality in order to protect fish and wildlife beneficial uses would not constitute an unreasonable use of water.
319	8	The Healthy Rivers Agreements Provide a Better Means to Meet the Objectives of the Bay-Delta Plan Update As an alternative to the unimpaired flow approach, South Sutter proposes to participate in the Healthy Rivers Agreements. The Healthy Rivers Agreements are intended to create conditions that will support viable populations of anadromous fish species and other wildlife within and outside of the watershed, consistent with the objectives of the Bay-Delta Plan. [Footnote 2: See VA MOU at Term Sheet Appx. 1 (Table 1a, detailing proposed new contributions to Delta outflow).] South Sutter and DWR have collaborated over the last two years to develop this Proposal and term sheet by which South Sutter would contribute flows to the Bear River, commensurate with the flow	Please see Staff Report Chapter 13, Revised Proposed Plan Amendments, and Common Response 1.3, Revised Proposed Plan Amendments, for information on the VA pathway.

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		contributions of other Sacramento Valley water users described in the March 29, 2022 VA MOU, to help meet the water quality objectives of the Bay-Delta Plan. The enclosed draft term sheet [ATT 1] specifies that South Sutter's flow contributions could be divided in two different phases over the 8-year term of the Healthy Rivers Agreements: Phase 1 flows would be derived from the 4,400 acre-foot contributions currently assigned under D-1641 and the 2000 BDSA with DWR. If South Sutter's Application to renew its FERC license for the Camp Far West Powerhouse (P-2997) is accepted and approved during the Healthy Rivers Agreements term, South Sutter would contribute Phase 2 flows, as established by the permit conditions to maintain minimum flows in the Bear River, based on water year type, through the proposed measures described below. Phase 2 flows would replace Phase 1 flows upon renewal of South Sutter's FERC license.	
319	9	Phase 1 Flows Under Phase 1, South Sutter would voluntarily bypass water that would otherwise be diverted to storage in Camp Far West Reservoir, defer direct diversions, or release previously stored water (or any combination of the three) to contribute up to 4,400 acre-feet of Bear River water between the months of January and June each year to help meet the water quality objectives under an updated Bay-Delta Plan. This Proposal builds on South Sutter's longstanding conjunctive use practices and prior stored water contributions to Bay-Delta water quality under the 2000 BDSA, described above. The 4,400 acre-feet could be released in as little as 4 days, which would provide flexibility to avoid attracting fish to the Lower Bear River waters at unsuitable times, adaptively manage Bear River flows, and ensure contributed water is additive to the system by occurring immediately prior to or after reservoir spill events. Phase 2 Flows For its Application to renew its FERC license for the Camp Far West Powerhouse (P-2997), as amended on October 25, 2019, South Sutter has developed four flow-related measures to satisfy	Please see Staff Report Chapter 13, Revised Proposed Plan Amendments, and Common Response 1.3, Revised Proposed Plan Amendments, for information on the VA pathway.

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		minimum environmental flow requirements in the Bear River, downstream of the Camp Far West Reservoir. This new minimum flow schedule will result in an average annual minimum flow requirement increase of approximately 10,000 acre-feet on the Bear River. The measures described briefly below were developed in consultation with stakeholders and were each expressly approved by the U.S. Fish and Wildlife Service (USFWS), CDFW, and Foothills Water Network (FWN). While the National Marine Fisheries Service (NMFS) and the State Water Board did not formally agree at the time, they acknowledged the measures appeared reasonable. Under proposed measure WR1, South Sutter will determine the applicable water year type to implement subsequent articles and measures. The water year type for the October 15 through March 14 period will be determined by the previous April 1 through September 30 cumulative usable inflow into Camp Far West Reservoir. The water year type for the March 15 through October 15 period will be based upon DWR's 50 percent exceedance forecasts of the water year unimpaired runoff in the Yuba River. Under proposed measure AR1, South Sutter will satisfy minimum streamflow requirements for the Bear River downstream of Camp Far West Dam and Powerhouse. Minimum stream flows of 30 cubic feet per second (cfs) or less will be measured at the fish release valve off South Sutter's Main Canal (USGS Gage 11423800, Bear River Fish Release below the Reservoir, near Wheatland, CA). Minimum stream flows greater than 30 cfs will be measured at USGS Gage 11424000, Bear River Near Wheatland. With measure AR2, South Sutter will provide fall and spring pulse flows for the Bear River downstream of Camp Far West Dam and Powerhouse. A fall pulse flow will occur between November 10 and November 17 of each wet, above normal, and below normal water year; with a second fall pulse flow occurring between December 1 and December 7 in the wetter years. A spring pulse flow can be provided in below normal, dry, and critical water years when average daily flow below the diversion dam has not been above 200 cfs since April 1st, though coordinated timing is necessary to avoid attracting fish into a	

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		hostile environment. South Sutter has proposed coordinating and possibly modifying the proposed timing of pulse flows in coordination with NMFS, USFWS, CDFW, and the State Water Board. Under proposed measure AR3, South Sutter will make good faith efforts to adhere to ramping rates when implementing minimum and pulse flows so that combined releases from the Camp Far West Powerhouse and Dam low-level outlet are not reduced at a rate greater than specified target ramping rates. For the first two years of implementation of targeted ramping rates, South Sutter will conduct fish stranding surveys in the reach downstream of South Sutter's non-project diversion dam to identify Chinook salmon and steelhead that may be stranded during ramping events. Upon issuance of a new FERC license, South Sutter's Phase 1 Flow contributions would cease and South Sutter would adhere to the new Phase 2 FERC license minimum flow requirements, as negotiated and set forth in the FERC license conditions, to satisfy South Sutter's contribution requirements under the Bay-Delta Plan.	
319	10	Conclusion The DSR indicates that the unimpaired flow scenarios would result in significant reductions in water storage and flows in the Bear River, with cascading environmental impacts in numerous resource categories. The scale of those impacts is not sufficiently analyzed or mitigated. South Sutter urges the State Water Board to adopt the Healthy Rivers Agreements as the program for implementation of the Bay-Delta Plan and to support South Sutter's Proposal to participate in that program.	The commenter provides no specific critiques of the analysis and suggests no specific impacts that were not analyzed or mitigated.
319	11	[Attachment 1: Document titled Amendment to Add South Sutter Water District to 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]	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.
321	1	CCWD relies solely on the Sacramento-San Joaquin River Delta to divert safe and reliable drinking water for its municipal and industrial customers in central and eastern Contra Costa County.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not

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		Therefore, any changes to the regulatory regime governing the Bay-Delta Estuary have the potential to impact CCWD's interests.	raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
321	2	In reviewing the subject document and related materials, CCWD identified questions regarding the modeling tools and analysis. We greatly appreciate that State Water Resources Control Board staff took the time to meet with us to answer our questions and followed up with additional information and 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.
321	3	Descriptions of CCWD's Water Supply, Service Area, Facilities, and Operations Throughout the SED, CCWD's water supply, service area, facilities, and operations are inaccurately, incompletely, and inconsistently described. To avoid confusion, the SED should be corrected. The following sections provide accurate, up-to-date information regarding CCWD's water supply, service area, facilities, operations, and permits and should be the basis for all descriptions of CCWD. Further, Attachment A [Attachment 1] to these comments provides examples of the incorrect information in the SED and provides suggested revisions to correct the misstatements.	Minor edits to the Staff Report text have been made as appropriate in response to this comment.
321	4	CCWD's Water Supply and Diversion Facilities CCWD serves water to over 550,000 people and a variety of industrial uses in central and eastern Contra Costa County, including portions of the western and central Delta (Figure 2-1 [Exhibit 1]). CCWD is both a wholesale and retail water supplier: wholesale water is provided to municipalities and water agencies that subsequently provide the water to residents and businesses in the cities and communities of Brentwood, Antioch, Pittsburg, Bay Point, Martinez, Oakley, Cypress Corridor, Hotchkiss Tract, Summer Lakes, and portions of Bethel Island and Knightsen; retail water is provided directly to major industrial customers, irrigation customers, and residents in Clayton, Clyde, Concord, Pacheco, Port Costa and portions of Martinez, Pleasant Hill and Walnut Creek. The SED segregates the impacts analysis into distinct geographic regions. Under the SED-defined regions, CCWD supplies water to portions of the Delta region and portions of the Bay Area region. Although many of CCWD's customers are located within the	Please see the response to comment 321-3. 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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		Delta, results for their water supply are summarized in the Bay Area region of the SED. We understand that it may be inevitable that some water suppliers would be split across the geographic regions; however, it is critically important that the SED accurately disclose how the impacts analysis is summarized. In the attached Appendix A [Attachment 1], CCWD has identified a number of instances in the SED where clarifications would better inform the public and decision-makers. As shown in Figure 2-1 [Exhibit 1], CCWD diverts water at four intakes in the Delta, located on Mallard Slough, Rock Slough, Old River, and Victoria Canal. CCWD also owns and operates Los Vaqueros Reservoir, an off-stream reservoir with a capacity of 160,000 acre-feet. CCWD diverts high-quality water when it is available in the Delta for direct delivery to its customers and storage in Los Vaqueros Reservoir. Water from Los Vaqueros Reservoir is subsequently delivered to CCWD's service area when Delta water quality is degraded, or when CCWD's Delta water supply is interrupted or limited by droughts or non-drought emergencies. The amount, timing, and location of CCWD's diversions depend on the quality of water at each intake and operational criteria in CCWD's permits to protect listed species. The Delta is the primary source of water supply for CCWD customers: over 87% of the water delivered within CCWD's service area in 2020 was diverted by CCWD from Delta surface waters; approximately 7% of deliveries were from recycled water; and approximately 5% of deliveries were from groundwater or other local supplies [Footnote 1: Local supplies are obtained and managed by municipal customers and not delivered by CCWD, including the City of Antioch's San Joaquin River diversions, industrial river diversions, and groundwater usage by the Diablo Water District, Golden State Water Company, and the City of Pittsburg.], including other Delta water supplies (CCWD 2021). CCWD diverts water from the Delta under its own post-1914 appropriative water rights [Footnote 2: CCWD's water rights include: Application 5941, Permit 3167, License 10514 (Priority date: June 13, 1928); Application 20245, Permit 20749 (Priority date: June 5, 1961); and Application 27893, Permit 19856 (Priority date: September 28, 1983)]; under a pre-1914	

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		appropriative water right held by the East Contra Costa Irrigation District (ECCID) [Footnote 3: ECCID's water right (Statement No: S000404) was first noticed in Contra Costa County in 1912.] and pursuant to contracts between ECCID and CCWD; and under water rights held by the United States and pursuant to CCWD's Central Valley Project (CVP) water supply contract with the Bureau of Reclamation [Footnote 4: CCWD's CVP contract is Water Service Contract I75r-3401A-LTR1-P.] (Reclamation). ECCID's service area overlaps with CCWD's service area, and in response to land use changes within the Delta (shifting from agriculture to urban), CCWD diverts Delta water under ECCID's water right to serve municipalities in the area where ECCID and CCWD's service areas overlap. Additionally, CCWD diverts Delta water under ECCID's water right and wheels that water to the City of Brentwood for use outside of CCWD's service area (but inside the City of Brentwood and ECCID service areas) pursuant to contracts between ECCID, the California Department of Water Resources, CCWD, and the City of Brentwood. Figure 2-2 [Exhibit 2] illustrates the overlap in service areas for CCWD, ECCID, and the City of Brentwood.	
321	5	[Exhibit 1: Graphic titled Figure 2-1: CCWD Service Area, Delta intakes, and primary conveyance facilities]	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.
321	6	[Exhibit 2: Graphic titled Figure 2-2: Overlap of service areas for CCWD, ECCID, and City of Brentwood]	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.
321	7	CCWD's Service Area is entirely within the watershed of the Bay-Delta Estuary; CCWD is not an exporter. The entire CCWD service area is located within the area protected by the Watershed of Origin portion (Water Code Sec. 11460 et seq.) of the Central Valley Project Act and the Delta Protection Act (Water Code Sec. 12220 et seq.), either within the "statutory Delta" defined in the Delta Protection Act or within the area immediately adjacent thereto and conveniently served therefrom (see Water Code Secs. 11128, 11460, 11463, and	Text in Chapter 2, Hydrology and Water Supply, of the draft Staff Report has been clarified to present CCWD as "diversions" rather than exports. Note also that the proposed Plan amendments contain no regulatory distinction for diversions that are described as exports. The flow requirements are proposed to be implemented in accordance with water right priority.

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		12931). CCWD's service area has been conveniently served with water from the Delta for more than 80 years (and portions thereof have been so served since 1930). CCWD is an in-basin water user, not an exporter. CCWD's entire service area is within the watershed of San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Estuary) and the wastewater from CCWD's service area that is not recycled [Footnote 5: CCWD has several agreements in place with wastewater agencies that provide recycled water supplies for industrial uses, wildlife enhancement, and landscape irrigation within CCWD's service area. Currently, over 10,000 acre-feet per year (AFY) of recycled water is put to direct beneficial use, with up to 17,000 AFY projected to be used by 2045 (CCWD 2021).] is discharged back into the Bay- Delta Estuary. Figure 2-3 [Exhibit 3] depicts the service areas of the four wastewater agencies that collect wastewater from CCWD's service area, treat and discharge the treated water either within the Delta or immediately downstream of the Delta into Suisun Bay or Carquinez Strait. Tidal hydrodynamics in the Bay-Delta Estuary mix the return flows from CCWD's service area with Delta waters not far from the original diversion locations. The discharge of return flows to the same region is a characteristic of an in-basin diverter (i.e., waters are not being exported out of the region). Return flows from CCWD's service area may serve a beneficial use as they often freshen water in the western Delta, which the Bay-Delta Plan indicates protects fish and wildlife beneficial uses. However, CCWD's return flows are not modeled in the Sacramento Water Allocation Model (SacWAM), the hydrologic and system operations model employed by the SWRCB for analyzing the Bay-Delta Plan updates, and thus not included in the SED impacts analysis. It is important to recognize that CCWD's service area does not receive any water from the export facilities in the south Delta. Neither the Central Valley Project (CVP) export facility (i.e., C.W. "Bill" Jones Pumping Plant, also known as Tracy Pumping Plant) or the State Water Project (SWP) export facility (i.e., Harvey O. Banks Pumping Plant) provides water to the CCWD service area. CCWD diverts all of its Delta water through intakes equipped	

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		with state-of-the-art fish screens. Additionally, operations at CCWD's intakes and Los Vaqueros Reservoir are governed by biological opinions from the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) and an incidental take permit from California Department of Fish and Wildlife (CDFW) (NMFS 1993; NMFS 2007; NMFS 2010; NMFS 2017; USFWS 1993a; USFWS 1993b; USFWS 2000; USFWS 2007; USFWS 2010; USFWS 2017; CDFG 1994; CDFG 2009; collectively, the "CCWD-specific biological opinions and permits"), which are separate and distinct from the biological opinions for the coordinated long-term operation (LTO) of the CVP and SWP. The Bay-Delta Plan has recognized that CCWD's diversions are distinct from the export facilities for many decades by excluding CCWD's diversions from "Export Limits" that limit the export of water from the CVP and SWP export facilities in the south Delta for the benefit of fish and wildlife purposes (see Table 3, Water Quality Objectives for Fish and Wildlife Beneficial Uses in the 1995, 2006, and 2018 Bay-Delta Water Quality Control Plans). Similarly, the export restriction that was imposed by NMFS in the 2009 CVP/SWP LTO biological opinion to limit CVP and SWP exports as a function of San Joaquin River inflow (i.e., the San Joaquin River inflow to export (I:E) restriction) does not restrict CCWD diversions, nor has any such limit been added to CCWD's incidental take permit from CDFW. The SED incorrectly refers to CCWD diversions as exports in a number of places. CCWD requests that the State Water Board issue an errata to correct these misstatements and clarify the definition of "exports" for the various existing and proposed restrictions. Attachment A [Attachment 1] to these comments provides: (1) examples of the incorrect or misleading information in the SED, and (2) suggested revisions.	
321	8	[Exhibit 3: Graphic titled Figure 2-3: Wastewater agencies within CCWD's Service Area]	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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321	9	The effects of CCWD's Delta diversions are fully mitigated. The SED states that the purpose of the narrative and numeric interior Delta flow requirements is "to reasonably protect native fish populations migrating through and rearing in the Delta from impacts related to Delta water export facilities." (SED, p. 1-3, emphasis added). CCWD is not an exporter, and CCWD's diversions are governed by biological opinions and permits separate from the CVP and SWP LTO biological opinions that already fully mitigate for the effects of CCWD's diversions on fish and wildlife. All CCWD intakes are equipped with positive barrier fish screens, so that CCWD's diversions are unlikely to cause injury or death of native fish that are larger than 20 mm (0.8 inches). Of all the threatened or endangered fish species listed under the federal or state endangered species acts, only the larval stage of Longfin Smelt and the larval stage of Delta Smelt are small enough to be entrained during diversions at the intakes if they are present in the area. The CCWD-specific biological opinions and permits impose measures to minimize the take of such larvae during CCWD operations. In addition, CCWD's incidental take permit requires CCWD to acquire and preserve tidal wetland habitat to fully mitigate for the potential incidental take of larval Longfin smelt and larval Delta smelt; this tidal wetland habitat also provides benefits to other native fish and aquatic species in the area. Furthermore, CCWD diversions have no measurable effect on interior Delta flows, such as Old and Middle River flow (OMR) or San Joaquin River flow at Jersey Point, and do not affect fish movement in the Delta. To estimate net OMR, Reclamation and DWR currently use an index that includes CCWD's diversions at Old River and Victoria Canal intakes but excludes diversions at Rock Slough intake because it was determined that Rock Slough diversions do not affect OMR (Hutton 2018). If CCWD were to divert at its Old River and Victoria Canal intakes at the maximum permitted capacity of both intakes at the same time, total CCWD diversions would be 320 cfs. This combined diversion rate would cause an effect of 0.016 feet/second on velocity at the flow gages where OMR is measured is, which is 4 times lower than the	As described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report, implementation of modifications to the interior Delta flow objectives, including DCC gate operations, export limits, and OMR flows, would be the responsibility of the Projects. In addition, as described in the revised proposed Plan amendments, the interior Delta flow objectives are implemented by the SWP and CVP. Objectives and implementation measures in the Bay-Delta Plan can be revised based on new information through the annual and periodic review processes. In addition, the project has been revised. Please see final Staff Report Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, for further information about the interior Delta flow requirements in the revised proposed Plan amendments.

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		calibration error for the instruments used to measure OMR (Figure 2-4 [Exhibit 4]). Similarly, the maximum effect of CCWD's diversions in the San Joaquin River at Jersey point is estimated assuming that CCWD diverts at all three intakes – Rock Slough, Old River, and Victoria Canal – at the same time at the maximum combined physical capacity (850 cfs). The cross-sectional area of the San Joaquin River at Jersey Point is approximately 60,500 square feet (sf) but varies depending on the tidal stage from approximately 56,000 sf (at low tide and low San Joaquin River flow) to 68,000 sf (at high tide and high San Joaquin River flow). CCWD's total combined diversions at maximum physical capacity (850 cfs) correspond to an effect of 0.015 ft/sec on velocity in the San Joaquin River at Jersey Point (Reclamation 2019). The velocity thresholds used to protect salmonids and smelts from diversions in the vicinity of fish screens are 0.33 ft/sec and 0.2 ft/sec (NMFS 1997; CDFW 2000), which are over 21 times and 13 times, respectively, greater than the maximum possible contribution to interior Delta flows from CCWD's combined physical capacity. Therefore, combined CCWD diversions at all its intakes have a negligible effect on OMR or velocity in the San Joaquin River at Jersey Point and are not likely to affect the movement of fish species. The SED should be revised to clarify that the narratives and numeric interior Delta flow requirements are not necessary to protect native fish populations from CCWD's diversions (which are already fully mitigated and have no measurable effect on interior Delta flow) and therefore are not applicable to CCWD's diversions. If the updated Bay-Delta Plan includes interior Delta flow requirements, it should clearly state the responsibility to meet such requirements falls to the CVP and SWP exports at the Jones Pumping Plan and Banks Pumping Plant because the SED's stated purpose of the interior Delta flow requirements is "to reasonably protect native fish populations migrating through and rearing in the Delta from impacts related to Delta water export facilities." (SED, p. 1-3, emphasis added). Attachment A [Attachment 1] to these comments provides suggested revisions to correct and clarify these points.	

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		Finally, the ecological effects of the flow conditions in the interior Delta, as well as the management actions the CVP and SWP would take to manage such effects, have been and will continue to be an ongoing field of research, where alternative indices, value thresholds, or management actions are being studied and updated. The proposed OMR objective for inclusion in the Bay-Delta Plan (as specified on page 5-40 of the SED) should include a specific and facilitated pathway for prompt modification as data develops and research progresses.	
321	10	[Exhibit 4: Graph titled Figure 2-4: CCWD's maximum possible effect on water velocity in Old and Middle Rivers, in relation to the calibration error of the instruments, velocity threshold for fish protection, and peak tidal velocity]	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.
321	11	The Project Description is Incomplete and Precludes an Adequate Impacts Analysis. As set forth in the comments submitted by the Northern California Water Association (NCWA) and others, the project description of the Plan amendments in the SED omits critical information about the proposed project which is necessary to inform a valid assessment of the project's environmental impacts. As the court explained in the leading case of <i>County of Inyo v. City of Los Angeles</i>, 71 Cal. App. 3d 185, 192-193 (1977): Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the "no project" alternative) and weigh other alternatives in the balance. An accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR. The project description in the SED fails to meet these fundamental standards because the Inflow and Cold Water Habitat Objectives include a significant range of variability, along with discretion reserved for future decisions, but the project does not include criteria or standards to constrain the exercise of that discretion. As a result, it cannot be determined how the Plan amendments would be implemented. This presents significant problems for municipal water suppliers because, as set forth in	Please see Common Response 7.1, General CEQA and Approach to the Analysis, regarding the approach to the environmental analysis, and adequacy of the project description for the purpose of environmental analysis. Also see Common Response 1.3, Revised Proposed Plan Amendments, regarding project objectives and the program of implementation. This comment mistakes purposeful implementation flexibilities with an incorrect CEQA claim that the project is not adequately defined. The Plan amendments are broad but not unbounded. 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. Tailored solutions would occur within the bounds of the default standards. Sections 5.4.2.3, Proposed Inflow Objective, and 5.4.3.3, Proposed Cold Water Habitat Objective, explain that the adaptive range of inflows is designed to provide flexibility to adjust flows over time to maximize benefits for native fish and wildlife while avoiding redirected impacts on cold water habitat, and to address other management concerns on the tributaries for salmonids and other native species.

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		more detail in the comments submitted by the Regional Water Authority, it is untenable for municipal water suppliers not to know how much replacement water they will need to obtain until February of any given year, particularly when they are in the midst of a multi- year drought. Further, as shown in Table A.1.7 of the SED, the water supply impacts to CCWD and other CVP municipal contractors are greater than just the amount needed to meet the increased flows because the SED's modeling assumes that CVP municipal suppliers will receive only 25% of their historic deliveries under the 65% UIF scenario, rather than 50% assumed under the 55% UIF scenario . Thus, it is not only unclear how much flow will be required each year, but it is also uncertain whether that decision will trigger greater municipal supply reductions that are embedded in the higher end of the Inflow Objective's range. In short, the project description in the SED fails to provide sufficient information about the Plan amendments to allow for a complete and accurate assessment of the environmental impacts, even if it is judged under the more lenient standards applicable to program-level documents. This major flaw in the document frustrates the fundamental goal of the environmental review process by preventing meaningful public input and informed governmental decision-making.	The CVP allocations listed in Appendix A1, Sacramento Water Allocation Model Methods and Results, Table A1-7, were provided to inform and describe SacWAM's water allocation logic pertaining to the operation of Shasta and Folsom Reservoirs under different flow alternatives. Because it is simulating hypothetical conditions using a monthly time step, the SacWAM planning model is not suited for use in a predictive manner to infer future allocations to municipal CVP contractors. Rather, SacWAM output is intended to be used in a comparative analysis to assess the incremental differences between model scenarios.
321	12	The Analysis of Impacts to CCWD Is Deficient. The SED underestimates the impacts of the Unimpaired Flow Alternatives on CCWD's water supply. The SED summarizes the impacts to CCWD's water supply as part of the Bay Area region in Section 6.4 ("Changes in Surface Water Supply") and Section 7.20 ("Utilities and Service Systems"), declaring that CCWD's water supply would not be impacted. Specifically, the SED declares that "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 [thousand acre-feet] (45 percent), 4 TAF (8 percent) through the North Bay Aqueduct, 33	Some commenters on the 2023 draft Staff Report have suggested that the impacts on agriculture and municipal water providers are overestimated, while others, including this one, suggest that impacts are underestimated. Given the inherent uncertainties involved in determining impacts, the Staff Report presents a reasonable and conservative approach to estimating impacts. The Staff Report presents a worst-case scenario for supply reductions to ensure that impacts are adequately disclosed. Plan 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. Modeling assumptions regarding water transfers to Contra Costa Water District have been revised to reflect no annual transfers from East Contra Costa Irrigation District. The detailed

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		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” (p. 6-69, emphasis added) and “Imported supplies are provided by several conveyances, which results in non-uniform changes in supply in the region. For example, under the 55 scenario, estimated annual average supply reductions to Bay Area communities through the Mokelumne Aqueduct to EBMUD would be reduced by 95 TAF (45 percent) on average, supply through the North Bay Aqueduct would be reduced by 2 TAF (4 percent), supply through the Putah South Canal would be reduced by about 27 TAF (62 percent), and supply through the Contra Costa Canal would not be reduced” (p. 7.20-37, emphasis added). Appendix D provides Supplemental Municipal Supply Analysis Information, including the modeling results for the unimpaired flow scenarios in Table D-17 (“San Francisco Bay Area: Replacement Water Supply Needed, Lower and Upper Bound (acre-feet)”), which may serve as the basis for determinations in Section 6.4 and 7.20 above. Appendix D specifies that transfer water is a possible source of replacement water supply for many water providers, including CCWD, and Table D-17 specifies how much replacement supply would be necessary for each unimpaired flow scenario for specific water suppliers. The impacts to CCWD’s water supply as summarized in Table D-17 are repeated in Table 4-1 [Exhibit 5] below for convenience; this table shows very little change in CCWD’s water supply for the unimpaired flow scenarios relative to the baseline. The SED results summarized above conflict with what was expected by CCWD staff with extensive expertise in hydrology and water operations. Therefore, CCWD requested the State Water Board provide the input and output files from modeling of CCWD operations, which was not part of the public release but was provided promptly by State Water Board staff upon request. (Holland 2023; SWRCB 2023a) Upon review of the modeling results provided by State Water Board, CCWD determined that the SED reports the total deliveries to CCWD’s service area, which includes transfer supplies. SacWAM utilizes a sub-model to simulate CCWD	description of the revised modeling assumptions and updated modeling results are included in Appendix H1, Sacramento Water Allocation Model Methods and Results for the Revised Proposed Plan Amendments. These modeling updates do not alter the impact analysis or conclusion of the impact analysis. Please refer to Common Response 7.1, General CEQA and Approach to the Analysis, for information about the level and scope of analysis. CEQA does not require the State Water Board to evaluate impacts that individual entities may experience.

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		operations and provides results for CCWD diversions by water right category, including CVP water rights, local water rights, and transfer supply. The sub- model was developed for current regulatory conditions and assumes that any water supply shortages for CCWD would be made up with transfer supplies. This is a valid assumption under the current regulatory regime. CCWD has a long-term agreement with ECCID that allows for up to 4,000 acre-feet of transfer water during shortage situations, which, together with conservation and drought supply from Los Vaqueros Reservoir, has been sufficient to meet CCWD's water demands through recent droughts, validating the use of this assumption under current regulatory conditions. However, under the proposed unimpaired flow scenarios, the modeling assumption that transfer supplies would be available to be purchased by CCWD to replace water supplies lost due to the imposition of additional flow requirements is unjustified. Given the significant water supply impacts to Sacramento/Delta water supply due to the unimpaired flow scenarios (see SED Table 6.4-2), it is likely that water supply available to be purchased would be significantly reduced. Since there is no factual basis to assume availability of transfer water under the new unimpaired flow scenarios, to accurately disclose the water supply impacts to CCWD's service area, the SED should disclose the change in amount of transfer water supply (i.e., replacement supply) that the State Water Board's modeling determined that CCWD would need to purchase to maintain the annual deliveries of Table 4-1 [Exhibit 5]. The long-term annual average impact to CCWD's water supply (i.e., the needed additional transfer water supply relative to the baseline), extracted from the modeling results that were provided by State Water Board staff, is summarized in Table 4-2 [Exhibit 6] (all water years) and Table 4-3 [Exhibit 7] (critically dry water years). The abrupt increase in necessary transfer water between the 55% UF and 65% UF scenarios is attributable to the inconsistencies of the modeling assumptions between these scenarios. The SacWAM model assumes that the minimum allocation to CVP municipal and industrial (M&I) contractors,	

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		including CCWD, would be 50% of contract supply in the 55% UF scenario but is reduced to 25% of contract supply in the 65% UF scenario. As summarized in the MBK report [Footnote 6: "Technical Review of the Draft Staff Report/Substitute Environmental Document in Support of Potential Updates to the Water Quality Control Plan and Associated Modeling" by MBK Engineers] submitted with the NCWA comments, SacWAM's simulation of the 55% UF scenario is inconsistent with policies and contracts. Specifically, in the 55% UF scenario, SacWAM delivers water to CVP north of Delta water service contractors while cutting deliveries to the Sacramento Valley Settlement Contractors, which is inconsistent with historical CVP allocation and operations. This indicates that SacWAM overestimates the minimum CVP M&I allocation in the 55% UF scenario, thus underestimating likely water supply impacts to CVP M&I contractors. The substantial impacts to CCWD's water supply, indicated by the State Water Board's modeling of the amounts of increased transfer water supply necessary to meet CCWD's demand shown in Table 4-2 [Exhibit 6] and Table 4-3 [Exhibit 7] is not disclosed in the SED. The SED should be revised to accurately disclose the impacts to CCWD's water supply.	
321	13	[Exhibit 5: Table titled Table 4-1: CCWD Water Supply as Presented in the Draft SED]	Please see the response to comment 321-12.
321	14	[Exhibit 6: Table titled Table 4-2: Long-term Annual Average of CCWD's Needed Transfer Water Supply (all water years) as determined by SWRCB modeling]	Please see the response to comment 321-12.
321	15	[Exhibit 7: Table titled Table 4-3: Long-term Annual Average of CCWD's Needed Transfer Water Supply (critical water years) as determined by SWRCB modeling]	Please see the response to comment 321-12.
321	16	Improper reliance on long term annual averages in the SED underestimates impacts. The water supply impacts analysis relies on long-term annual averages by water year type. As noted in the MBK Report, the SED fails to conduct any multi-year drought analysis, so there is no evaluation of the cumulative impacts to municipal water supplies that would result from multiple dry years occurring	The Staff Report considers effects during extended dry years qualitatively. As discussed for Impact UT-d in Section 7.20, Utilities and Service Systems, multi-year droughts would exacerbate municipal shortages for some of the municipal uses. Please see Common Response 4.2, Drought and Climate Change, for additional information regarding impact analysis of multi-year droughts.

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		back-to-back. The importance of evaluating multi-year droughts is recognized in the state guidelines for Urban Water Management Plans, which requires municipal water suppliers to provide an analysis of their drought contingency plans to ensure adequate supplies through 5-year droughts. Modeling results indicate that the water supply impacts from multi-year droughts are significantly greater than the long-term averages for critical years. For example, Figure 4-1 [Exhibit 8] shows the timeseries of annual impacts to CCWD's water supply from the Plan amendments, using the same modeling results from the SWRCB modeling that is summarized by water year type in Table 4-3 [Exhibit 7]. While the average impact to CCWD's water supply during critical years is 46.5 TAF/year (see Table 4-3), the impacts to CCWD's water supply during the 6-year drought from 1930 through 1935 would have averaged over 76 thousand acre-feet per year (TAF/year) with the largest single- year impact in 1935 of over 116 TAF more transfer supply needed in the 65% unimpaired flow scenario than the baseline. One of the purposes of Los Vaqueros Reservoir is to provide drought supply for CCWD. CCWD stores water in Los Vaqueros Reservoir during wetter times and relies on that water to help meet customer needs during droughts. When faced with consecutive dry years, CCWD gradually draws down storage and does not have an opportunity to fully replenish the reservoir until after the drought ends. Even with careful planning during the first years of a drought, it is possible for the drought to last long enough that storage in Los Vaqueros Reservoir is depleted, resulting in a larger water supply gap in the later years of a multi-year drought. The SED should disclose the impacts of the Plan amendments during multi-year droughts as the water supply impacts are substantially greater than long-term averages, the water supply impacts become greater in the later years of multi-year droughts, and the ability to mitigate the impacts with transfer supplies during such long, sustained shortages would be increasingly difficult due to decreasing availability of transfer water, as discussed in the comments submitted by NCWA.	In Section 6.1, Changes in Hydrology and Water Supply, the Staff Report describes intended use of model results in a comparative manner, which allows for assessing the changes in system operations and resulting incremental effects between scenarios. Quantifying effects on individual water suppliers is a challenge as the models are not intended to be used in a real-time predictive manner and are not calibrated to quantify effects on individual suppliers. Given the model limitations and scale, the long-term averaging of modeling results is appropriate and is used to compare scenario effects in a concise, aggregated manner. However, it is likely that water supply impacts from multi-year droughts could be greater than the long-term averages would suggest, which is adequately disclosed and evaluated in the environmental analyses of reduced Sacramento/Delta supply to municipal and agricultural uses.

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321	17	[Exhibit 8: Graph titled Figure 4-1: Annual impacts to CCWD's water supply as determined by SWRCB modeling]	Please see the response to comment 321-16.
321	18	Water supply impacts due to water right curtailments is not analyzed or disclosed. The SED states several times that the standard water right priorities would govern the allocation of responsibility among water users to meet the unimpaired flow requirements (see SED pp. 5-13 and 5-17 to 5-18). However, the SacWAM modeling does not implement water right priorities; instead, SacWAM applies 99 different priorities to allocate water among various water demands (SacWAM documentation, Table 7-62), making it impossible for water right holders to determine how their water rights may be curtailed to implement the unimpaired flow scenarios. CCWD requested, and the State Water Board staff provided, modeling results to CCWD; for CCWD staff to determine how CCWD's water rights might be impacted by the unimpaired flow scenarios, CCWD requested and received modeling results for the amount of surplus flow in the Delta (Ligare 2023; SWRCB 2023b). CCWD's water right permit to fill its Los Vaqueros Reservoir with excess water (Application 20245; Permit 20749) is conditioned upon the availability of Delta surplus from November through June each year. Figure 4-2 [Exhibit 9] illustrates that the unimpaired flow scenarios would substantially reduce the amount of time when surplus otherwise would be available in the Delta, indicating likely impacts to CCWD's ability to use its water right permit to fill Los Vaqueros Reservoir. The SED does not quantify or disclose such impacts. When surplus flow is not available, one or more water users must limit their operations (either reduce diversions or release previously stored water) to meet Delta outflow requirements. In the Baseline, the majority of responsibility to meet Delta outflow requirements is placed upon the CVP and State Water Project (SWP) through SWRCB Decision 1641. Figure 4-3 [Exhibit 10] illustrates the percent of time that surplus flow is not available; for the Baseline scenario, this indicates the percent of time that CVP and SWP operations are constrained in order to meet Delta	The impact on CCWD's ability to fill Los Vaqueros Reservoir was evaluated by modeling end-of-April and end-of-September storage under the baseline and the unimpaired flow alternatives. Iterative modifications to the SacWAM modeling pertinent to the effects of changes in water supply on the Los Vaqueros Reservoir are described in Appendix A1, Sacramento Water Allocation Model Methods and Results, Section A1.11.3, Los Vaqueros Project Operations. Storage in Los Vaqueros Reservoir at the end of April and September increases relative to baseline conditions as the percent unimpaired flow requirements increase (Figures A1-127 and A1-128), as south Delta water quality is expected to improve during CCWD's permitted diversion-to-storage season thereby providing CCWD greater opportunity to refill. Furthermore, SacWAM results in Table A1-145 show that average annual fluctuations in water surface elevation at Los Vaqueros decrease as flow requirements increase (negative fluctuation changes indicate less fluctuation associated with the flow scenarios). CEQA does not require the State Water Board to evaluate impacts that individual entities or water rights holders may experience. Please see Common Response 7.1, General CEQA and Approach to the Analysis, for more information about the level and scope of the analysis.

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		outflow. The SED states at page 5-57, “The proposed Plan amendments would broaden the responsibility for meeting the proposed Plan amendments beyond the SWP and CVP based on water right priorities.” Thus, for the unimpaired flow scenarios, Figure 4-3 illustrates the percent of time that curtailments may be necessary to meet Delta outflow requirements based on water right priority. CCWD’s water right for diversion at Mallard Slough (Application 5941; License 10514) is a 1928 priority. Based on the SWRCB modeling results illustrated in Figure 4-3 [Exhibit 10], the likelihood of SWRCB- imposed curtailments of CCWD’s Mallard Slough license would increase (progressively) under the impaired flow scenarios. For example, looking at the month of March, CCWD’s use of Mallard Slough would not be curtailed in the Baseline because the CVP and SWP maintain the responsibility for meeting Delta outflow requirements the 10% of the time that surplus flow is not available in the Baseline; in the UIF scenarios, water right curtailments would occur when surplus flow is not available, which would be 10% of the time in the 35% UIF scenario and over 40% of the time in the 55% UIF scenario. While the modeling results indicate that the likelihood of water right curtailments would increase progressively with the unimpaired flow requirements, neither the SED nor the SWRCB modeling performed in support of the SED provides any quantification of the water supply impacts based on water right priority. To properly disclose the impacts of the proposed Plan amendments, the SED needs to evaluate the water supply impacts that would occur if the proposed Plan amendments were implemented by water right priority as described in the project description.	
321	19	[Exhibit 9: Graph titled Figure 4-2: Percent of years when surplus flow is available in the Delta]	Please see the response to comment 321-18.
321	20	[Exhibit 10: Graph titled Figure 4-3: Percent of years when surplus flow is not available in the Delta, indicating that one or more water users must limit operations to meet Delta outflow]	Please see the response to comment 321-18.

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321	21	Underestimation of impacts to urban disadvantaged communities. The SED fails to evaluate how the estimated reductions in water supply and associated need and cost for replacement water supplies would affect the rates of municipal water suppliers. Increased water rates are likely to disproportionately affect lower- income customers, who may have more trouble affording the increased costs and may have less ability to further reduce water use to offset the increased costs (Legislative Analyst's Office 2023). Figure 4-4 [Exhibit 11] illustrates the disadvantaged communities (DAC) and low-income communities (LIC) within CCWD's service area. Disadvantaged communities [Footnote 7: Disadvantaged community designations per Senate Bill (SB) 535 (De León, Chapter 830, Statutes of 2012).] are designated by the California Environmental Protection Agencies, using CalEnviroScreen 4.0. Low-income communities [Footnote 8: Low-income definitions per Assembly Bill (AB) 1550 (Gomez, Chapter 369, Statutes of 2016).] are defined as the census tracts that are either at or below 80 percent of the statewide median income, or at or below the threshold designated as low-income by the California Department of Housing and Community Development's (HCD) Revised 2021 State Income Limits. As shown in Figure 4-4 [Exhibit 11], a significant portion of CCWD's service area is composed of low-income communities, disadvantaged communities, or both. CCWD, like other water utilities, offers "lifeline" rates that subsidize bills of low-income customers. Due to a constraint on public agencies imposed by the 1996 passage of Proposition 218 – a California constitutional amendment that requires a tight connection between water rates and cost of service – such assistance programs rely on non-rate revenue. Therefore, state and federal grants are needed to help local water suppliers meet enhanced conservation goals without disproportionately impacting under-resourced customers and exacerbating water affordability challenges.	The Staff Report provides extensive analysis and sufficient consideration of the municipal water supply economic effects that could occur as a result of the proposed Plan amendments that are appropriately detailed for the scope of the project. The potential effects of the estimated reductions in water supply and associated need and cost for replacement municipal water supplies are analyzed in Section 8.5, Municipal Water Supply Economic Effects. Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for information on replacement water supply costs, including costs for recycled water, used in the analysis of municipal water supply economic effects. Also see Common Response 8.1, Economic Analysis and Other Considerations, for regulatory context including a discussion of the level and scope of the analysis. The Staff Report appropriately acknowledges the potential municipal water supply economic effects on DACs. Section 8.5.9, Economically Disadvantaged Communities and Drinking Water, acknowledges that DACs may be more vulnerable than other municipalities and cities to impacts on surface and groundwater supplies. Chapter 10, Economically Disadvantaged Communities, discusses various financial and technical assistance programs available to assist public water systems serving DACs. These programs are designed to ensure access to safe, clean, and affordable water supplies and maintain compliance with applicable laws and regulations. Chapter 8, Economic Analysis and Other Considerations, also summarizes potential sources of funding for municipal water supply and conservation. These and other funding sources could potentially be leveraged to help municipal water suppliers and end users maximize the use of their water supplies. Please see Common Response 8.1, Economic Analysis and Other Considerations, for additional and updated information on potential funding sources for municipal water conservation and alternative water supplies, and a discussion related to Proposition 218.

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		The SED seems to recognize the need for such assistance programs, but incorrectly indicates that the “State Water Board’s Low-Income Rate Assistance (LIRA) program provides rate relief for low- income ratepayers of water utilities” (SED p. 10-9). In February 2020, the State Water Board released a report recommending a statewide low-income water rate assistance program to benefit about 4.7 million households at a cost of about \$600 million annually. However, to date, the program has not been implemented. The SED must consider the significant economic impacts that costs of this magnitude would have on rates for water districts like CCWD, and the resulting effects on disadvantaged and low-income urban communities.	
321	22	[Exhibit 11: Graph titled Figure 4-4: Low-Income and Disadvantaged Communities in CCWD’s Service Area]	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.
321	23	Use of unadjusted historical hydrology underestimates impacts. The SED analyzes potential impacts using historical hydrology and in doing so underestimates potential impacts. Specifically, relying on historical hydrology to determine unimpaired flow and developing targets of percentages of unimpaired flow fails to account for observed changes in hydrology over the last nearly 100 years. Numerous studies have demonstrated trends in rising temperatures, reduced snowpack, and a shift towards earlier spring snowmelt (Huang, et. Al. 2012; Hamlet, et al. 2005). The use of historical hydrology in the SED analysis ignores these observed trends. For example, in simulating the drought in the early 1930s, SacWAM uses the observed hydrology in that time, instead of adjusting the hydrology to reflect the effects that warming temperatures have had on California’s hydrology in the last 90 years. Furthermore, California is anticipated to experience more extreme hydrologic conditions (wetter wet and drier dry) periods. Setting water quality objectives based on historical hydrology fails to account for these reasonably foreseeable conditions and obligates additional water towards outflow that	Please refer to Common Response 4.2, Drought and Climate Change, for information regarding climate change and Staff Report modeling.

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		would not be required if climate-adjusted hydrology had been used. Failure to consider climate change and future hydrologic conditions leads to an underestimation of the impacts to other water users. Analyzing impacts using only historical hydrology fails to provide the most accurate picture practically possible of the SED's impacts. The State of California has made significant investments to further the best available science regarding climate change, develop future climate scenarios and data products that are publicly available [Footnote 9: https://water.ca.gov/Programs/All-Programs/Climate-Change-Program]. Concurrent programs have developed tools to adjust the historical hydrology to better simulate today's conditions (Reclamation 2023; DWR 2019). The State Water Board should similarly implement the best available science and tools to develop its proposed flow regulations and analyze the associated impacts.	
321	24	The SED's Mitigation Measures Are Inadequate to Mitigate the Impacts of the Plan Amendments on Municipal Water Suppliers. As set forth in the comments submitted by Regional Water Authority, the mitigation measures included in the SED do not satisfy the CEQA standards for mitigation. See, e.g., CEQA Guidelines Sec. 15370. Under the Plan amendments, CCWD's costs to obtain replacement water could be \$115M per year, or more, if transfer water is even available in sufficient volumes to offset the losses – but the SED does not commit the SWRCB to take any action to alleviate this impact, or any of the other impacts of the Plan amendments. By assuming that the impacted parties like CCWD will bear the costs and responsibility for mitigating the impacts of the SWRCB's action to adopt the Plan amendments, the SED violates CEQA. (City of Marina v. Bd. Of Trustees of Cal. State Univ. (2006) 39 Cal.4th 341, 359 [board abused its discretion under CEQA by certifying an EIR that improperly failed to identify voluntary compensation to affected party as a feasible method of mitigating the environmental effects of its project].)	This comment conflates actions that water suppliers may take to replace water supplies that are reduced as a result of the Plan amendments with mitigation measures to reduce the adverse environmental impacts of the Plan amendments. The Staff Report identifies both potential response actions and mitigation measures; however, it does not assume that any particular action or measure will necessarily be effective for any particular supplier. The Staff Report recognizes that the availability of replacement supplies may be limited; its impact conclusions therefore do not rely on the implementation of such actions. Similarly, the Staff Report notes that many mitigation measures are in the jurisdiction and control of other agencies, and therefore concludes that environmental impacts subject to such measures would be potentially significant. Please see Common Response 7.1, General CEQA and Approach to the Analysis, for further discussion of the Staff Report's approach to mitigation and the applicability of the City of Marina case. Please also see Common Response 8.1, Economic Analysis and Other Considerations, regarding regional economic analysis, estimates of potential effects, and funding opportunities.

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321	25	The SED's Evaluation of Alternatives Is Inadequate. The Alternatives That Have Been Evaluated Fail to Avoid or Substantially Lessen Most of the Significant Effects of the Proposed Project. The purpose of an SED's alternatives section is for the lead agency to consider environmentally superior alternatives that would "accomplish most of the project objectives" but reduce or avoid the project's significant environmental impacts. (The Flanders Found. V. City of Carmel-by-the- Sea (2012) 202 Cal.App.4th 603, 623.) The SED's alternatives consist of a High Flow Alternative, a Low Flow Alternative, and the No Project Alternative, none of which is capable of accomplishing the primary goal of reducing or avoiding the significant environmental impacts of the Plan amendments. Like the mitigation measures for impacts on utilities, the alternatives analysis fails to analyze feasible proposals that would reduce the significant impacts of the Plan amendments, such as reduced volumes or durations of flows, compensation or other assistance to agencies that will lose supplies, or the like. The alternatives analysis also misstates the CEQA standard for identifying the "environmentally superior" alternative by making a subjective determination that the Plan amendments are more "environmentally beneficial" than the alternatives analyzed, rather than applying the CEQA mandate to avoid or reduce a project's significant environmental effects. (See, e.g., County Sanitation Dist. No. 2 v. County of Kern (2005) 127 Cal.App.4th 1544, 15802 (2005) [for projects that may cause both beneficial and adverse significant impacts on the environment, the EIR must consider feasible alternatives and mitigation measures that might result in changes to the project that decrease its adverse impacts on the environment; "beneficial" nature of project does not excuse this CEQA requirement]. For these reasons, and the additional reasons set forth in the NCWA and Regional Water Authority comments, the SED's truncated alternatives analysis is defective.	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. As described in Section 7.2.3.8, Other Alternatives Considered, the State Water Board already considered and rejected other alternative approaches to establishing flow requirements. Only iterations of flow regimes that support project purposes and goals to mimic natural hydrographic conditions and provide functions essential to native fishes are analyzed in the Staff Report under the alternatives. In addition to the High Flow Alternative, the Low Flow Alternative, and the No Project Alternative, the Staff Report considered several alternatives for the Bay-Delta Plan update and the proposed VAs. Section 7.24, Alternatives Analysis, provides information and an evaluation of all the alternatives except the proposed unimpaired flow requirements and proposed VAs, including the environmental impacts and economic effects of each of these alternatives. The proposed VAs are described and analyzed in Chapter 9, Proposed Voluntary Agreements. 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

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			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
321	26	The SED Fails to Present an Adequate Comparative Analysis of the Alternatives. The SED's modeling incorporates different operational assumptions for the different UIF scenarios. For example, the 55% UIF scenario assumes a different minimum amount of deliveries to CVP municipal contractors (i.e., public health and safety needs) than the 65% UIF does. Because of these different operational assumptions, it is not possible to make a valid comparison of one UIF scenario against another, as the differences in modeling results are not necessarily attributable to the change in the amount of unimpaired flow being modeled; they could be caused by the changes in operational assumptions that were applied to the different UIF scenarios, or a combination of both factors. Consequently, it is not possible to compare the differences in the UIF scenarios using the SED's modeling results.	There are different assumptions for various operational parameters other than the required percent of unimpaired flow across the scenarios. This is because as flow requirements go up, limits on reservoir operations become more stringent (higher levels required before water is delivered to water users) and minimum allocations get lower. For the 2023 draft Staff Report, these assumptions are described generally in 6.2.2, Unimpaired Flow Scenario Assumptions, and in greater detail in Appendix A1, Sacramento Water Allocation Model Methods and Results. In particular, Section A1.8, Central Valley Project Operations; Section A1.9, State Water Project Operations; and Section A1.11, Non-Project Tributaries, describe changes to CVP, SWP, and non-Project tributary assumptions, respectively. For the limited recirculation, additional modifications to scenario assumptions are described in Section 13.4.2.1, Sacramento Water Allocation Model (SacWAM) General Updates, and Appendix H1a, Sacramento Water Allocation Model Methods. Also see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for a discussion of SacWAM modeling and the reasonableness of SacWAM assumptions.
321	27	Porter-Cologne Water Quality Control Act When the State Water Board is considering adoption of a water quality objective to amend a water quality control plan, Water Code section 13241 compels the Board to weigh the following factors: (a) Past, present, and probable future beneficial uses of water; (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto, (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water	Some commenters on the 2023 draft Staff Report have suggested that the impacts on agriculture and municipal water providers are overstated, while others, including this one, suggest that impacts are understated. Given the inherent uncertainties involved in determining impacts, the Staff Report presents a reasonable and conservative approach to estimating economic impacts. Please see Common Response 1.2, Water Quality Control Planning Process, for information regarding how Staff Report considers factors in Water Code section 13241. In Section 7.20, Utilities and Service Systems, the State Water Board analyzed effects of change in water supply on service providers and concluded that effects could be significant even if proposed mitigation was applied (Impact UT-d). Please also see Common Response 8.1, Economic Analysis and Other Considerations,

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		quality in the area, (d) Economic considerations, (e) The need for developing housing within the region, and (f) The need to develop and use recycled water. The SED fails to account for and properly balance these factors because: (1) it understates the impact that the loss of municipal supplies due to the Plan amendments would have on the affected economies, and, (2) by assuming that the municipal suppliers will be able to offset their water losses, it downplays how the water losses will preclude municipalities from being able to develop housing despite California's intense and well-documented housing crisis.	regarding regional economic analysis and estimates of potential effects.
321	28	Economic impacts are underestimated in some cases and not evaluated in others. The underestimation of water supply impacts to CCWD necessarily underestimates the resulting economic impacts. The SED underestimates the impacts to CCWD's water supply by failing to disclose the significant increases in replacement water supply that are included in the SWRCB modeling that was conducted in support of the SED. Water supply deficits of this amount will in-turn cause serious economic impacts because affordable and reliable water supplies in adequate quantities are a cornerstone to a land use agency's ability to plan its growth and meet its general economic development goals.	Please see response to Comment 321-21.
321	29	The assumptions of availability and cost of replacement supplies underestimate the economic impacts. The SED indicates that impacts to CCWD's water supply would be replaced by use of large storage projects (presumably increased use of CCWD's Los Vaqueros Reservoir for replacement supply) or purchase of transfer water. However, the SED lacks a factual basis for assuming that these replacement supplies would be available in the quantities needed to replace the water supplies lost as a result of the Plan amendments.	Please see response to comment 321-21 regarding potential funding sources for municipal water conservation and alternative water supplies. As described in Section 8.5.1 Approach to Analysis, information from CCWD's Urban Water Management Plan was used to identify the most likely sources of future water supply, which led to specifying large storage projects and purchase of transfer water for CCWD. Following discussions with CCWD, changes were made to the SacWAM to more explicitly represent each of

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		CCWD's ability to store water in Los Vaqueros Reservoir during periods of excess could be significantly impacted by the Plan amendments, which would reduce the amount of storage in the reservoir that is available as replacement water supply. Further, as discussed in the NCWA comments, the implementation of the Inflow and Cold Water Habitat Objectives will render much of the water that has historically been sold to willing buyers through transfers unavailable in the future. As the availability of transfer supplies is reduced, the cost will increase as has been documented during previous times of shortage (see D. Cordova report, submitted with NCWA comments). In recent drought years, transfer water has been sold for \$800 - \$1000 per acre-foot. The Plan amendments will significantly reduce the amount of transfer water available, as discussed in the NCWA comments and related attachments. Basic economics mandates that when supply of a limited good goes down, the price point goes up. Accordingly, given the level of water supply impacts that the SED estimates will occur throughout the Sacramento/Delta basins as a result of the Plan amendments, and the loss of previously available transfer supplies, the future cost of transfer water supply could well be \$1500 per acre- foot or more. Assuming that the impacts to CCWD's water supply anticipated by the SWRCB modeling for the 65% UIF scenario can be replaced by transfers at \$1500/acre-foot, CCWD's water purchase costs would increase by over \$115M per year for each year of the 6-year drought of 1930 through 1935. For comparison, CCWD's total projected expenditure for Fiscal Year 2024 is \$235M.	CCWD's diversions, permits, and contracts. Section H1a3.5.31 in Appendix H1a3, Sacramento Water Allocation Model Results for Updated Unimpaired Flow Scenarios, presents storage for Los Vaqueros, which does not show a decrease in storage. The results are similar to those in the 2023 draft Staff Report, which shows very small changes to diversions by CCWD. This provides the basis for assuming that water supplies would remain available even with implementation of the flow scenarios or regulatory pathway (55 w/WSAs). The Staff Report recognizes that there is the potential for changes in surface water supply to reduce the supply of water for the transfer market and increase water transfer prices. Section 7.1.5.3, Reasonably Foreseeable Methods of Compliance and Response Actions, acknowledges that implementation of the project would reduce Sacramento/Delta water supplies at certain times and locations, which could limit the amount of surface water available for transfer. At the same time, changes in water supply could increase the value of transfer water, thereby incentivizing transfers and leading to transfers from lower net revenue crops to higher net revenue crops or for municipal uses. In many cases for large municipal water providers, they retain financial capacity to adjust and adapt to relatively short-term water price increases but also to take advantage of longer-term opportunities for additional supply leveling, including the development of agreements with other water providers. Section 6.6, Other Water Management Actions, provides information on temporary and permanent transfers that have occurred in recent decades. As discussed in Section 8.3, Costs Associated with Other Water Management Actions, the issue is complex, requiring knowledge and information regarding supply alternatives, future demand and market conditions, and the behavior of willing sellers and buyers in response to market prices. Thus the analyses assumes that there could be greater demand pressure in the water transfer market such that future prices may be higher than recent historical trends. See Common Response 8.1, Economic Analysis and Other Considerations, for response on the feasibility and costs of water transfers.

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321	30	The SED does not evaluate the impacts of the Unimpaired Flow Alternatives on CCWD's water rates. In contrast to cities and counties, water districts such as CCWD do not receive sales tax revenue in California. As a practical matter, this means that the water rates they charge their customers must cover all of the districts' myriad of costs, including capital improvement projects, operations and maintenance, labor and administration, reserve funds to cover extraordinary situations, and everything else. As the Public Policy Institute of California (PPIC) noted in its 2021 Fact Sheet, "Paying for California's Water System," in recent years, water "bills have been rising faster than inflation to keep pace with these infrastructure updates, alongside new investments to manage a changing climate" as urban water agencies have been replacing aging infrastructure and making adjustments to comply with new regulatory requirements. For low-income households, rising rates can lead to affordability and access issues. (PPIC 2023; see also Legislative Analyst's Office 2023) The SED acknowledges "[t]here are multiple economically disadvantaged communities in the Sacramento River watershed," (SED at p. 2-127), and, as shown in Figure 4-4 [Exhibit 11] above, there are significant numbers of recognized DACs and LICs within CCWD's service area. The Plan amendments could cause water supply impacts to CCWD that would trigger annual costs of \$115M, or more, for replacement supplies. To satisfy the SWRCB's obligations under Porter-Cologne, the SED must consider the significant economic impacts that costs of this magnitude would have on rates for water districts like CCWD, and the resulting effects on disadvantaged and low-income urban communities.	Section 13241 of the Porter-Cologne Act identifies certain factors that must be evaluated when establishing water quality objectives. The factors are an inherent part of the analyses presented for decision-makers to understand the impacts not only on the environment but also on other beneficial uses, economics, and other important considerations like the human right to water. Section 1.2, Organization of the Staff Report, in the 2023 draft Staff Report provides a list of the primary locations where this information can be found in the 2023 draft Staff Report. Section 13.6.2, Water Code Section 13241 Analysis, also provides a list of the primary locations where this information can be found in the Staff Report. Please see Common Response 1.2, Water Quality Control Planning Process, for further discussion on consideration of factors under Water Code section 13241. Please see Common Response 8.1, Economic Analysis and Other Considerations, for a discussion on municipal water rates and potential funding sources for municipal water conservation and alternative water supplies.
321	31	Housing Adequate water supplies are a prerequisite to municipalities' ability to approve housing and other development projects; before many types of new development are approved, cities and counties must make findings that there is sufficient water to support those uses. See, e.g., Cal. Water Code Secs. 10910, et seq.	Changes in water supply include reduced Sacramento/Delta water supply for municipal uses. 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,

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		Absent sufficient water to support new development, cities and counties cannot meet their legally mandated fair-share of the Regional Housing Needs Allocation. Since 1969, the state has mandated that all California cities and counties plan to accommodate a calculated amount of housing needs for residents of differing income levels. See Gov. Code Sec. 65584. Under this law, the California Department of Housing and Community Development determines the total number of new homes the Bay Area needs to build, and how affordable those homes need to be, to meet the housing needs of people at all income levels. The Association of Bay Area Governments then allocates a share of the region's housing need to each city and county in the region, and the local governments must update the Housing Elements of their General Plans to show the locations where housing can be built and the policies and strategies that will be implemented to meet that community's housing needs. But without sufficient water supplies to support new development, the land use agencies (i.e., cities and counties) cannot carry out these responsibilities, and new housing cannot be built. The SED erroneously indicates that impacts to CCWD's water supply would be replaced, apparently through purchase of additional transfer water in volumes sufficient to replace the supplies lost to the Plan amendments. However, as also noted above, this modeling assumption lacks a factual basis for assuming that these replacement supplies would be available in the quantities needed. To satisfy the SWRCB's obligations under Porter-Cologne, the SED must consider the impact of the Plan amendments on development of regional housing in the context of the correct volumes of water supply impacts. The SED should be revised to include this analysis.	water transfers, increased use of recycled water, and water conservation. The 2023 Staff Report acknowledges that in some locations, replacement supply may be difficult. Based on comments received and subsequent meetings with CCWD staff, SacWAM was updated to represent each source of supply to CCWD. Analysis based on updated SacWAM modelling is presented in Chapter 13, Revised Proposed Plan Amendments, of the partially recirculated draft Staff Report. For a more detailed description of SacWAM updates please see Appendix H1a, Sacramento Water Allocation Model Methods, of the partially recirculated draft Staff Report. It's important to note that the program of implementation contains various flexibilities that can help minimize water supply impacts. Failure to consider the flexibilities provided can result in overstating the actual changes in supply that would result from plan implementation. 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. 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. Finally, the revised proposed Plan amendments provide for a voluntary agreement pathway for an eight-year term with the possibility of extension that reduces the required flow contributions. 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.
321	32	[ATT 1: Page:] 2-95 [Excerpt from Substitute Environmental Report:] "In the southwest, the CVP, SWP, Contra Costa Water District (CCWD), East Contra Costa Irrigation District, and Byron-Bethany Irrigation District divert from the Old River channel of the San Joaquin River and other southern Delta channels." [Comment:] CCWD diverts water from the western and central	The text in the final Staff Report has been clarified per the commenter's suggestion. 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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		Delta as well. Old River is a distributary of the San Joaquin River in the tidal estuary. It is not a “channel of the San Joaquin River” [Suggested Replacement Text:] In the west, Contra Costa Water District (CCWD) and the City of Antioch divert water from the Sacramento River and San Joaquin River, respectively. In the central and southwest, the CVP, SWP, CCWD, East Contra Costa Irrigation District, and Byron-Bethany Irrigation District divert from Old River and other southern Delta channels.	
321	33	[ATT 1: Page:] 2-98 [Excerpt from Substitute Environmental Report:] “During the summer–fall dry season, the Delta channels essentially serve as a conveyance system for moving water from reservoirs in the north to the CVP and SWP export facilities (operated jointly under the Coordinated Operations Agreement) as well as the smaller CCWD facility, for subsequent delivery to farms and cities in the San Joaquin Valley, southern California, and/or other areas outside the watershed (^Kimmerer 2002a).” [Comment:] CCWD’s service area is not “in the San Joaquin Valley, southern California, and/or other areas outside the watershed” [Suggested Replacement Text:] During the summer–fall dry season, the Delta channels essentially serve as a conveyance system for moving water from reservoirs in the north to the CVP and SWP export facilities (operated jointly under the Coordinated Operations Agreement) as well as the smaller CCWD facility, for subsequent delivery to farms and cities in the Delta, the Bay Area, San Joaquin Valley, southern California, and/or other areas outside the Delta watershed.	The text in the final Staff Report has been clarified per the commenter’s suggestion. 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.
321	34	[ATT 1: Page:] 2-101 [Excerpt from Substitute Environmental Report:] “Exports from the south Delta include SWP’s Banks Pumping Plant, CVP’s Jones Pumping Plant, and CCWD’s Victoria Canal and Old River Pumping Plants.” [Comment:] CCWD is not an exporter. CCWD’s entire service area is within the area protected by the Watershed of Origin statutes.	The text in the final Staff Report has been clarified per the commenter’s suggestion. 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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		[Suggested Replacement Text:] Exports and diversions in the south Delta include SWP's Banks Pumping Plant, CVP's Jones Pumping Plant, and CCWD's Victoria Canal and Old River Pumping Plants.	
321	35	[ATT 1: Page:] 2-101 [Excerpt from Substitute Environmental Report:] "The combined capacity of CCWD south Delta intakes is about 500 cfs, with median and maximum daily combined diversions for the same period of 140 and 460 cfs, respectively (Dayflow)." [Comment:] This is incorrect. While both the Old River and Victoria Canal intakes each have a capacity of 250 cfs, the combined capacity is limited to 320 cfs. Further, the Dayflow data that is cited variable includes CCWD's diversions at Rock Slough, Old River, and Victoria Canal. However, CCWD's diversions at Rock Slough are north of the OMR flow gauges and not included in the OMR index, and therefore not relevant for this discussion. Historical diversions at CCWD's Rock Slough (INB), Old River (IDB), and Victoria Canal (CCW) intakes are available on CDEC (station name), but the data is not QA/QC'd. CCWD provides QA/QC'd daily diversion data at all four of our intakes to Reclamation on a monthly basis and provides annual water right reports to SWRCB as well. [Suggested Replacement Text:] The combined capacity of CCWD's intakes on Old River and Victoria Canal is 320 cfs.	The text in the final Staff Report has been clarified per the commenter's suggestion.
321	36	[ATT 1: Page:] 2-132 [Excerpt from Substitute Environmental Report:] "Antioch diverts water through two pumping plants in the southern Delta and receives water from CCWD" [Comment:] This is incorrect. [Suggested Replacement Text:] Antioch diverts water from the San Joaquin River in the western Delta under its pre-1914 water right and purchases water from CCWD. (Antioch, 2016)	The text in the final Staff Report has been clarified per the commenter's suggestion. 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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321	37	[ATT 1: Page:] 2-132 [Excerpt from Substitute Environmental Report:] “The largest communities in the Delta region are Tracy and Antioch, which together receive an average of 18 TAF of surface water as estimated by SacWAM (Table 2.8-6). ... The other small communities in the Delta primarily divert directly from neighboring Delta channels and pump groundwater.” [Comment:] Tracy and Antioch are the only cities in the Delta that SacWAM simulates separately, but there are other cities in the Delta that are simulated in SacWAM, including Brentwood, Oakley, and Pittsburg in CCWD’s service area. [Suggested Replacement Text:] The cities of Brentwood, Oakley, Antioch, and Pittsburg rely on Delta surface water that is diverted by CCWD. CCWD is included in the San Francisco Bay Area region in this report, although a portion of its service area is located in the Delta.	As explained in Chapter 2, Hydrology and Water Supply, of the 2023 draft Staff Report, the study area is divided into seven regions based on geography and water supply that generally correspond to the hydrologic regions defined in DWR’s California Water Plan or are aggregations of hydrologic regions, differing where appropriate for the current analysis. There is no regulatory significance to the study area regions designated in this Staff Report, and information presented occasionally spans regional boundaries. In these cases, information generally is presented where it best aligns with geographic boundaries. The suggestion to clarify the text is appreciated, however it is not necessary for the analysis. 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.
321	38	[ATT 1: Page:] 2-133 [Excerpt from Substitute Environmental Report:] “CCWD diverts water from multiple intakes in the Delta to its service area in the Bay Area region. Further information on CCWD infrastructure is provided in Section 2.8.4, San Francisco Bay Area.” [Comment:] This is only partially correct and omits critical information. Because CCWD’s service area is split across two of the regions in the SED, it is difficult for decision makers and the public to track down the effects to water users in CCWD’s service area. [Suggested Replacement Text:] CCWD diverts water from multiple intakes in the Delta to its service area, which is in both the Delta region and San Francisco Bay Area region. For the purposes of this analysis, diversions by CCWD to its service area and the City of Brentwood, including deliveries to the City of Antioch and other areas within the Delta, are summarized in Bay Area region; however, diversions taken directly by the City of Antioch are summarized in the Delta region.	Please refer to the response to comment 321-37.
321	39	[ATT 1: Page:] 2-136 [Excerpt from Substitute Environmental Report:] “The 48-mile Contra Costa Canal originates at Rock Slough, receives water from all CCWD sources, and ends near the	The final Staff Report has been updated to reflect the estimated flows through the Contra Costa Canal as 138 TAF per year on average as estimated by SacWAM version 2023.06.12. These

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		Bollman Water Treatment Plant just outside Concord. It diverts an average of 75 TAF/yr as estimated by SacWAM.” [Comment:] SacWAM should not be a reference for CCWD’s average diversions, especially because this is a significant underestimation of CCWD’s diversions. Recommend using CCWD’s Urban Water Management Plan as the source here. [Suggested Replacement Text:] The 48-mile Contra Costa Canal originates at Rock Slough, receives water from all CCWD sources, and ends near the Bollman Water Treatment Plant just outside Concord. CCWD’s total deliveries within its service area and the City of Brentwood [Footnote 1: CCWD diverts water from the Delta for deliver to its service area and wheels water on behalf of the City of Brentwood that is delivered to the portion of Brentwood outside of CCWD’s service area.] was 133,020 AFY in 2020. (CCWD, 2021)	SacWAM estimates agree very closely with the estimates provided in the comment.
321	40	[ATT 1: Page:] 5-38 [Excerpt from Substitute Environmental Report:] “The Bay-Delta Plan and D-1641 limit exports in two ways.” [Comment:] The Bay-Delta Plan and D-1641 clearly define that “Combined export rate for this objective is defined as the Clifton Court Forebay inflow rate (minus actual Byron-Bethany Irrigation District diversions from Clifton Court Forebay) and the export rate of the Tracy pumping plant.” [Suggested Replacement Text:] The Bay-Delta Plan and D-1641 limit exports [Footnote 1: Combined export rate for this objective is defined as the Clifton Court Forebay inflow rate (minus actual Byron Bethany Irrigation District diversions from Clifton Court Forebay) and the export rate of the Tracy pumping plant.] in two ways.	The commenter suggests minor text revisions that are not significant to the Staff Report analyses, nor would the revisions change the Staff Report conclusions. The suggested revisions to the 2023 draft Staff Report are not warranted.
321	41	[ATT 1: Page:] 5-39 [Excerpt from Substitute Environmental Report:] “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...” [Comment:] SWP and CVP exports should be clearly defined as	The commenter suggests minor text revisions that are not significant to the Staff Report analyses, nor would the revisions change the Staff Report conclusions. The suggested revisions to the 2023 draft Staff Report are not warranted.

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		done in the Bay-Delta Plan and D-1641. [Suggested Replacement Text:] Combined SWP and CVP exports from the Clifton Court Forebay (minus actual Byron- Bethany Irrigation District diversions from Clifton Court Forebay) and the Tracy pumping plant 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...	
321	42	[ATT 1: Page:] 5-40 [Excerpt from Substitute Environmental Report:] “First, net reverse flow draws fish, especially the smaller larval and juvenile forms, into the export facilities where they can experience high mortality” [Comment:] CCWD is not an exporter and does not entrain fish at its diversion facilities. The mortality discussed in this section occurs at CVP Jones Pumping Plant and SWP Clifton Court Forebay (high predation) and Banks Pumping Plant. Please update the SED text throughout this section to accurately represent that the “export facilities” refers to Banks and Jones export facilities. [Suggested Replacement Text:] First, net reverse flow draws fish, especially the smaller larval and juvenile forms, into Clifton Court Forebay and Jones Pumping Plant where they can experience high mortality. Please make similar revisions throughout this section of the document to clarify.	Comment 321-9 acknowledges that Contra Costa Water District (CCWD) intakes could entrain larval longfin smelt and Delta smelt, so it is unclear what the basis is for the claim in this comment that CCWD does not entrain fish at its diversion facilities. The commenter suggests minor text revisions that are not significant to the Staff Report analyses, nor would the revisions change the Staff Report conclusions. The suggested revisions to the 2023 draft Staff Report are not warranted.
321	43	[ATT 1: Page:] 5-40 [Excerpt from Substitute Environmental Report:] “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.” [Comment:] Additionally, OMR management actions are subject	The commenter suggests minor text revisions that are not significant to the Staff Report analyses, nor would the revisions change the Staff Report conclusions. The suggested revisions to the 2023 draft Staff Report are not warranted. Please also see the response to comment 321-9.

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		to ongoing research and updates. Further, as acknowledged in the SED baseline discussion there is an ongoing reconsultation on the 2019 BiOps. Thus it is reasonably foreseeable that the biological opinions incorporated into this Interior Delta Flows objective will be superseded before the Bay-Delta Plan amendments are adopted. For these reasons, we suggest this objective not be included. If, however, it remains in the proposed plan amendments, the text should be clarified to clearly define SWP and CVP exports. Finally, the proposed objective should include a pathway for modification based on updated science. [Suggested Replacement Text:] For Banks and Jones 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 best available science and updates to biological opinion or incidental take permit provisions.	
321	44	[ATT 1: Page:] 5-40 [Excerpt from Substitute Environmental Report:] “The program of implementation would include provisions related to determining the applicable OMR flow level, including applicable monitoring, triggers, and action responses consistent with the 2019 BiOps and 2020 ITP, including incorporation of the State Water Board into these processes.” [Comment:] Calculation of the OMR index or use of an entrainment index that is shown to be at least as protective of native species should be included in the program of implementation too. [Suggested Replacement Text:] The program of implementation would include provisions related to determining methodology to calculate an index that would be protective of native fish and the applicable monitoring, triggers, and action responses consistent	The commenter suggests minor text revisions that are not significant to the Staff Report analyses, nor would the revisions change the Staff Report conclusions. The suggested revisions to the 2023 draft Staff Report are not warranted.

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		with the 2019 BiOps and 2020 ITP, including incorporation of the State Water Board into these processes.	
321	45	[ATT 1: Page:] 6-6 [Excerpt from Substitute Environmental Report:] “Other diversions for use outside of the Delta region such as SWP and CVP and Contra Costa Water District (CCWD) also are simulated separately from Delta depletions.” [Comment:] CCWD’s diversions are for use within the Delta region and the Bay Area region. [Suggested Replacement Text:] Delta exports for use outside of the Delta region such as SWP and CVP exports are simulated separately from Delta depletions. Similarly, Contra Costa Water District (CCWD) diversions for use in the Delta and Bay Area regions also are simulated separately from Delta depletions.	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.
321	46	[ATT 1: Page:] 6-67 [Excerpt from Substitute Environmental Report:] These communities include the North Bay (Fairfield, Suisun City, Travis Air Force Base, Napa, Benicia, Vallejo), East Bay (CCWD and EBMUD), and South Bay (portions of Santa Clara Valley Water District [Valley Water], Zone 7 Water District [Zone 7], and Alameda County Water District). [Comment:] Although this is the “Bay Area” region, SED analysis includes communities that are in the Delta. Please explicitly mention these cities for clarity. [Suggested Replacement Text:] These communities include the North Bay (Fairfield, Suisun City, Travis Air Force Base, Napa, Benicia, Vallejo), Delta (CCWD deliveries to Brentwood, Oakley, Antioch, and Pittsburg), East Bay (EBMUD and portions of CCWD), and South Bay (portions of Santa Clara Valley Water District [Valley Water], Zone 7 Water District [Zone 7], and Alameda County Water District).	For the informational and analytical purposes of the draft Staff Report, Contra Costa Water District is included in the San Francisco Bay Area Region as described in Section 2.8.4, San Francisco Bay Area, and Section 6.4.6, Sacramento/Delta Supply to the San Francisco Bay Area.
321	47	[ATT 1: Page:] 6-101 [Excerpt from Substitute Environmental Report:] In 2012, CCWD expanded its Los Vaqueros Reservoir from 100,000 to 160,000 acre- feet, increasing reliability of Sacramento/Delta water supplies for water providers within the Bay Area to help meet municipal water demands during drought periods and emergencies (CCWD 2016).	Information related to the expansion of Los Vaqueros Reservoir in 2012 has been updated in the final Staff Report. The edit does not alter the impact analysis or conclusion of the impact analysis.

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		[Comment:] Phase 1 of the Los Vaqueros Reservoir Expansion Project (expanding capacity from 100 to 160 TAF) was for the benefit of CCWD customers. Phase 2 (in planning/permitting now to expand capacity up to 275 TAF) expands the benefits to regional partners and wildlife refuges. [Suggested Replacement Text:] In 2012, CCWD expanded its Los Vaqueros Reservoir from 100,000 to 160,000 acre- feet, increasing reliability of Sacramento/Delta water supplies for CCWD customers to help meet municipal water demands during drought periods and emergencies (CCWD 2016).	
321	48	[ATT 1: Page:] 7.12.1-38 [Excerpt from Substitute Environmental Report:] CCWD has an intake on Mallard Slough east of the Antioch intake that also is sensitive to net Delta outflow and is not used frequently for CCWD drinking water (CCWD 2010). [Comment:] This is not correct. CCWD's intake is west (not east) of Antioch, and the frequency of use depends on salinity at that location. [Suggested Replacement Text:] CCWD has an intake on Mallard Slough, which connects to the Sacramento River west of Antioch. CCWD's Mallard Slough intake is sensitive to net Delta outflow and is only used when salinity at Mallard Slough is less than about 150 mg/L chloride (CCWD 2010).	In the final Staff Report, Section 7.12.1, Surface Water, text has been revised in response to this comment. These revisions do not change the impact conclusions in Section 7.12.1.
321	49	[ATT 1: Page:] 7.12.1-42 [Excerpt from Substitute Environmental Report:] CCWD imports Delta water and stores water in Los Vaqueros Reservoir. Water quality in Los Vaqueros Reservoir is largely affected by water quality in the Delta and shares some of the same water quality impairments, including mercury. [Comment:] CCWD is not an exporter/importer. CCWD's entire service area is in the watershed of the Bay-Delta Estuary and protected by the Watershed of Origin statutes. Return flow from CCWD's service area is discharged into the Delta or Sacramento River just downstream of the Delta in Suisun Bay or Carquinez Strait. While Los Vaqueros Reservoir is listed as impaired due to mercury on the 303(d) list due to mercury levels in the stocked	The final Staff Report Section 7.12.1, Surface Water, has been revised in response to this comment. These revisions do not change the impact conclusions in Section 7.12.1.

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		fish, there is no evidence of mercury in the water column through ongoing sampling and there is no other impairment listed for the reservoir. [Suggested Replacement Text:] [CCWD suggests deleting this sentence as it is incorrect.]	
321	50	[ATT 1: Page:] 7.20-12 to 7.20-13 [Excerpt from Substitute Environmental Report:] Antioch diverts Sacramento/Delta water from the Delta and receives water from CCWD. The other small communities in the Delta primarily divert directly from neighboring Delta channels and pump groundwater. [Comment:] Does not mention other Delta cities. [Suggested Replacement Text:] Antioch diverts Sacramento/Delta water from the Delta and receives water from CCWD. The cities of Brentwood, Oakley, and Pittsburg rely on Delta surface water that is diverted by CCWD. Analysis of impacts to CCWD is included in the San Francisco Bay Area region, although a portion of CCWD's service area is located in the Delta. The other small communities in the Delta primarily divert directly from neighboring Delta channels and pump groundwater.	Delta water supply is defined in sufficient detail in Section 2.8.3, Delta, and Section 7.20, Utilities and Service Systems. As explained in Section 2.8, Existing Water Supply, of the Staff Report, the study area is divided into seven regions based on geography and water supply (Figure 2.8-1b). The study area regions generally correspond to the hydrologic regions defined in DWR's California Water Plan or are aggregations of hydrologic regions, differing where appropriate for the current analysis. There is no regulatory significance to the study area regions designated in this Staff Report, and information presented in the document occasionally spans regional boundaries. In these cases, information generally is presented where it best aligns with geographic boundaries. For example, several counties span portions of multiple study area geographic regions, and county-level data generally are presented in context of the region with which the county best aligns geographically. The suggested minor revisions to Section 7.20.2, Environmental Setting, are not significant to the analyses or the overall conclusions regarding environmental impacts and are not included in the final Staff Report.
321	51	[ATT 1: Page:] A1b1-4 to A1b1-5 [Excerpt from Substitute Environmental Report:] The San Francisco Bay Area region (Bay Area region) receives Sacramento/Delta supplies from several sources. These are Solano Project, Vallejo Permit Water, SWP North Bay Aqueduct (NBA), SWP South Bay Aqueduct (SBA), CVP's Contra Costa Water District (CCWD), CVP's San Felipe Unit, and East Bay Municipal Utility District (EBMUD). [Comment:] CCWD diverts Delta water under its own water rights, under a pre-1914 water right held by the East Contra Costa Irrigation District, and under CCWD's CVP contract. This section seems to limit CCWD's Delta water supply to CVP only. The CVO reports used to quantify CCWD's historical diversions in	Chapter 2, Hydrology and Water Supply, of the 2023 draft Staff Report provides that "CCWD diverts water from multiple intakes in the Delta to its service area in the Bay Area region. Further information on CCWD infrastructure is provided in Section 2.8.4, San Francisco Bay Area." (Section 2.8.3, Delta) and additionally describes CCWD infrastructure in Section 2.8.4.

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		this appendix include CCWD's total diversions at Rock Slough, Old River, and Victoria Canal intakes, but does not include CCWD's historical diversions at Mallard Slough Intake. [Suggested Replacement Text:] The San Francisco Bay Area region (Bay Area region) receives Sacramento/Delta supplies from several sources. These are Solano Project, Vallejo Permit Water, SWP North Bay Aqueduct (NBA), SWP South Bay Aqueduct (SBA), CVP's Contra Costa Water District (CCWD), CCWD's Permit Water, East Contra Costa Irrigation District's Permit Water, CVP's San Felipe Unit, and East Bay Municipal Utility District (EBMUD).	
321	52	[Attachment 2: Document titled Contra Costa Water District 2020 Urban Water Management Plan]	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.
321	53	[Attachment 3: Document titled California Endangered Species Act Memorandum of Understanding by and between Contra Costa Water District and California Department of Fish and Game regarding the Los Vaqueros Project (Ref. No. 9339)]	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.
321	54	[Attachment 4: Document titled Exhibit A Department of Fish and Game Fish Screening Criteria]	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.
321	55	[Attachment 5: Document titled California Endangered Species Act Incidental Take Permit No. 2081-2009-013-03 Contra Costa Water District Maintenance and Operation of the Los Vaqueros Project and Alternative Intake Project]	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.
321	56	[Attachment 6: Document titled Decision Scaling Evaluation of Climate Change Driven Hydrologic Risk to the State Water Project Final Report]	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.

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321	57	[Attachment 7: Article titled Effects of Temperature and Precipitation Variability on Snowpack Trends in the Western United States]	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.
321	58	[Attachment 8: Email from State Water Resources Control Board to Contra Costa Water District dated October 13, 2013 Re: Bay-Delta Update - Sac/Delta model of CCWD operations with attachment titled LVStandAloneModel_08162019_PublicRelease.zip]	Please see the responses to comments 321-12 and 321-18. 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.
321	59	[Attachment 9: Article titled Hydrological response to climate warming: The Upper Feather River Watershed]	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.
321	60	[Attachment 10: Document titled A Model to Estimate Combined Old & Middle River Flows]	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.
321	61	[Attachment 11: Document titled Assessing Early Implementation of Urban Water Use Efficiency Requirements]	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.
321	62	[Attachment 12: Email from State Water Resources Control Board to Contra Costa Water District et al. dated November 16, 2023 Re: SWRCB/CCWD meeting with attachment titled SacWAM_2023.06.12-uf-Deltasurpl.csv]	Please see the responses to comments 321-12 and 321-18. 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.
321	63	[Attachment 13: Document titled Biological Opinion for the Los Vaqueros Reservoir Project]	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.

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321	64	[Attachment 14: Document titled Fish Screening Criteria for Anadromous Salmonids]	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.
321	65	[Attachment 15: Document titled Biological Opinion for the Contra Costa Water District's Alternative Intake Project]	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.
321	66	[Attachment 16: Document titled Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project]	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.
321	67	[Attachment 17: Letter from National Marine Fisheries Service to Bureau of Reclamation dated October 15, 2010 Re: requesting concurrence]	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.
321	68	[Attachment 18: Webpage titled Fact Sheet - April 2023 Water Use in California]	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.
321	69	[Attachment 19: Document titled Agreement between the United States of America and the State of California for Coordinated Operation of the Central Valley Project and the State Water Project]	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.
321	70	[Attachment 20: Document titled Reinitiation of Consultation on the Coordinated Long-Term Operation of the Central Valley Project and State Water Project]	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.
321	71	[Attachment 21: PowerPoint titled LTO Modeling Update]	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,

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			General Comments, for the approach to addressing attachments to comments.
321	72	[Attachment 22: Memorandum Re: Formal Consultation on Effects of the Proposed Los Vaqueros Reservoir Project on Delta smelt, Contra Costa County, California]	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.
321	73	[Attachment 23: Memorandum Re: Formal Consultation Pursuant to Section 7 of the Endangered Species Act of 1973, as Amended, on Contra Costa Water District's Construction of a Multipurpose Pipeline and Future Water Supply Implementation Program, Contra Costa County, California]	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.
321	74	[Attachment 24: Memorandum Re: Reinitiation and Amendment of Formal Consultation and Conference on Contra Costa Water District's Future Water Supply Implementation Program (Service file no. 1-1-99-F-0093) for the Renewal of the Central Valley Project Long Term Water Service Contract, Contra Costa County, California]	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.
321	75	[Attachment 25: Memorandum Re: Formal Endangered Species Act Consultation on the Proposed Coordinated Operations of the Central Valley Project (CVP) and State Water Project (SWP)]	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.
321	76	[Attachment 26: Memorandum Re: Concurrence on the Los Vaqueros Reservoir Expansion Project is Not Likely to Adversely Affect the Delta Smelt (File MP-730 ENV-7.0)]	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.
321	77	[Attachment 27: Memorandum Re: Amendment of the 2005 Biological Opinion on the Operations and Maintenance Program Occurring on Bureau of Reclamation Lands within South-Central California Area Office (Service File No: 1-1-04-F-0368) to include the Rock Slough Fish Screen Facility Improvement Project (Bureau of Reclamation File No: 423 ENV 7.00)]	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.
321	78	[Attachment 28: Modeling files titled SWRCB modeling files: SacWAM results for Delta surplus for the baseline and the unimpaired flow scenarios. SacWAM_2023.06.12-uf-Deltasurpl.csv.]	Please see the responses to comments 321-12 and 321-18. 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,

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321	79	[Attachment 29: Modeling files titled SWRCB modeling files: Los Vaqueros WRIMS model with the DSS input and output files for each scenario. LVStandAloneModel_08162019_PublicRelease.zip.]	Please see the responses to comments 321-12 and 321-18. 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.
322	1	I offer the following comment regarding the Draft Staff Report's (DSR) assumption that unimpaired flow (UIF) alternatives may result in increased use of water transfers to address water supply shortages stemming from a UIF requirement. I am the General Manager of Butte Water District. I have held that position for nearly 30 years. Butte Water District along with three other water agencies collectively hold pre-1914 water rights that are recognized in an Agreement on Diversion of Water from the Feather River (Diversion Agreement) with the State of California acting by and through its Department of Water Resources (DWR). There are other water districts and companies that also hold Diversion Agreements that I collectively refer to as the Feather River Agencies or FRAs. Over the course of my tenure as General Manager, I have negotiated and implemented over 11 water transfers. There are three types of generally recognized water transfers in the Feather River basin: reservoir reoperation, land idling (rice), and groundwater substitution. Butte Water District has historically participated in either or both rice land idling and groundwater substitution transfers. At full land idling participation and maximizing Butte Water District's groundwater substitution capacity, the District can transfer approximately 17,000 acre-feet of water. In preparing this comment I reviewed the following sections in the DSR: (1) the environmental effects of increased use of water transfers in the resource-specific analyses in Section 7.3 through Section 7.20 (under Other Water Management Actions); (2) information on water transfers in Chapter 6, Changes in Hydrology and Water Supply (specifically Section 6.6.1.2, Water	The impact conclusions made in the draft Staff Report do not rely on the implementation of other water management actions. The Staff Report recognizes that the availability of replacement supplies may be limited. As discussed in Section 6.6.1.2, Water Transfers, it is difficult to predict with certainty 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. Please see Common Response 6.3, Water Supply and Other Water Management Actions, for more discussion on water supply impacts and Common Response 8.1, Economics and Other Considerations, for more discussion on water transfers. Model results are presented as worst case scenarios that do not utilize flexibility in the Plan for adaptive implementation and local cooperative solutions. Water right holders may propose local cooperative solutions for individual tributaries, two or more tributaries, or for regions, including the Delta. If a local cooperative solution is developed for two or more tributaries, the tributaries may work together to meet the combined numeric inflow requirements provided that the narrative inflow and cold water habitat objectives are met on each individual tributary. 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

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		Transfers); and (3) Chapter 7, Environmental Analysis (subsection Water Transfers in Section 7.1.5.3, Reasonably Foreseeable Methods of Compliance and Response Actions). In general, the DSR forecasts water supply impacts from the UIF requirement and assumes the availability of water transfer supplies to minimize those water supply impacts, particularly for municipal water suppliers. In addition, I reviewed the DSR Technical Memorandum prepared by MBK Engineers summarizing the SacWAM model results for the proposed plan amendments (55% UIF with a 45%-65% adaptive range). The UIF standard significantly impacts storage levels in Lake Oroville. While the pre-1914 water rights encapsulated in Butte Water District's Diversion Agreement are not directly tied to storage levels at Lake Oroville, low storage levels impose operational challenges on DWR and make it difficult or impossible for DWR to adhere to the terms of the Diversion Agreement along with all other legal and regulatory obligations of the State Water Project. For example, in 2021 due to drought conditions, Lake Oroville storage levels were as low as 787,578 acre-feet on September 30, 2021. At that low elevation, the only remaining outlet of Lake Oroville is the river valve with a capacity of not more than 4,000 cfs and likely significantly less at that low head. During late September and for the balance of the calendar year, Butte Water District and some other FRAs are entitled to and historically do divert and utilize water for multiple beneficial uses, including for agriculture (e.g., irrigation and rice straw decomposition), recreation, refuge deliveries, habitat enhancement for the Pacific Flyway and other purposes. However, in September 2021 through December 2021 due to low storage levels and the resulting bottleneck at Lake Oroville, Butte Water District and other FRAs were unable to divert and use water to satisfy demands for those multiple beneficial uses. MBK produced the following figure [Exhibit 1] utilizing SacWAM results of the proposed plan amendments (55% UIF) to demonstrate impacts to end-of-May storage at Lake Oroville: MBK also provided the reduction in Oroville storage of the 55% UIF standard using the SacWAM model by month and water year type, as follows [Exhibit 2].	minimum human health and safety water supplies where alternate supplies are not available. The State Water Board is not a party and is not bound by water right agreements between individual parties. It is possible that individual agreements may need to be updated and revised to account for Bay-Delta Plan requirements.

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		These water supply reductions are significant. As one example, the average annual impact to end-of May Lake Oroville storage because of the proposed plan amendments is a reduction of 615,000 acre feet. This would result in significant operational challenges for DWR to comply with all legal and regulatory obligations for the balance of the year, including compliance with the Diversion Agreements. In many years, the proposed plan amendments would result in water supply impacts to the FRAs. For example, nearly 40% of the time, Lake Oroville end-of-May storage would be at or below 2 MAF. 2	
322	2	[Exhibit 1: Graph titled Oroville End-of-May]	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.
322	3	[Exhibit 1: Table described as the reduction in Oroville storage of the 55% UIF standard using the SacWAM model by month and water year type]	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.
322	4	The DSR also proposes a cold water narrative objective, titled "Reservoir Carryover Storage Targets", of between 1.5 MAF and 1.2 MAF at Lake Oroville. (DSR, p. AI-11.) Reservoir "buffer pools" in Lake Oroville were adopted to maintain end-of-September storage to represent the narrative temperature objective in SacWAM modeling. (DSR, Table AI-8, p. AI-15.) The Lake Oroville buffer pool is above 2 MAF during April, May, June, and July with a 55% UIF requirement. Taken together, approximately 40% of the time end-of-May storage in Lake Oroville will be less than buffer pool requirements during key months of the irrigation season. Under such a scenario, it appears to me that the proposed plan amendments would reduce or entirely curtail diversions by the FRAs. This appears to be the approach taken on the Sacramento River affecting Sacramento River Settlement Contractors. (DSR p. AI-13 ["Model priorities were configured such that deliveries to settlement contractors would be reduced but not completely cut off when Shasta storage was below the buffer pool volume."]) The DSR	Please see the response to comment 322-1. The potential effects of water transfers on groundwater and the interaction with SGMA is discussed in Section 7.12.2, Groundwater. SGMA is identified and discussed more broadly as a further constraint on water supplies in the overall impact analyses for changes in hydrology and water supply (Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems) and the cumulative impact analyses in Section 7.23, Cumulative Impact Analysis, Growth-Inducing Impacts, and Significant Irreversible Environmental Changes. The flow scenarios, the higher ones in particular, represent requirements that at times are very different than what has been experienced since the major water projects have been developed. How the project may respond to regular conditions with lower water supply is difficult to determine, however the SWP and CVP may need to renegotiate contract terms with diverters. In the SacWAM analysis, every attempt was made to adhere to existing

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		states that similar requirements will be applied to the State Water Project, which would include Butte Water District and the other FRAs. (Id. P. AI-15 ["SWP operations were modified using similar methods to those for the CVP."].) Neither Butte Water District nor any other FRA has participated in a land idling transfer in years when their supplies are reduced pursuant to a "drought" condition as defined in the various Diversion Agreements. If the proposed plan amendments resulted in further reductions to water supplies, I would expect, consistent with historic practice, that there would be no land idling transfers from the FRAs. To the extent the DSR assumes land idling transfers from the FRAs in years when water supplies are reduced, such an assumption would be incorrect. In some prior drought years under the Diversion Agreements, some FRAs including Butte Water District have participated in minor (less than 10,000 AF cumulatively) groundwater substitution transfers. Participation in those prior transfers is highly fact and circumstance dependent, with some potential sellers unable to participate in such transfers given low groundwater conditions, or some sellers opting to transfer significantly reduced volumes via groundwater substitution. For example, in 2015 (a "drought year"), Butte Water District did not participate in a groundwater substitution transfer. However, in 2021 and 2022 (also "drought" years) Butte Water District did participate in groundwater substitution transfers, albeit at reduced volumes. If the proposed plan amendments were implemented, I expect there would be more widespread and frequent groundwater pumping within the FRAs' service area to attempt to minimize the resulting water supply impacts. These conditions would exacerbate existing drought year conditions in which potential groundwater substitution sellers either do not participate or elect to participate with significantly reduced groundwater substitution volumes. Moreover, the FRAs that have participated in prior groundwater substitution transfers in drought years are all located in groundwater subbasins subject to the Sustainable Groundwater Management Act (SGMA) and the requirement to avoid undesirable results as defined in SGMA and their	rules and contracts. At times, and in some scenarios, it is not possible to maintain current minimum contract allocations while meeting the increased flow requirements and maintaining carryover storage for cold releases and for delivery in future dry years. Please see Section 7.4, Agriculture and Forest Resources, for an analysis on the impacts of agriculture in the Sacramento River Watershed region. Please see Common Response 6.3, Water Supply and Other Water Management Actions, and Common Response 8.1, Economic Analysis and Other Considerations, for more information on pricing and availability of water transfers under possible future conditions.

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		respective Groundwater Sustainability Plans. Given greater reliance on groundwater pumping, implications with SGMA, and the difficulties in avoiding related third party and environmental impacts, I would not expect that groundwater substitution transfers would occur in the same limited manner as they have in the past in future years when the proposed plan amendments result in water supply reductions during the irrigation season. In my opinion land idling transfers within the FRAs' service area would not occur under the proposed plan amendments in drier year types where UIF results in water supply reductions. In those same years, groundwater substitution transfers would either not occur or would be even more significantly reduced in volume (e.g., much less than 10,000 acre-feet). It is neither reasonable nor realistic for the DSR to include large volume transfers from the FRAs in its analysis of how water suppliers would respond to shortages associated with implementation of the proposed plan amendments.	