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538-1	In 1981, the North Delta Water Agency (NDWA or Agency) [North Delta Water Agency] and the Department of Water Resources (DWR) executed a Contract for the Assurance of a Dependable Water Supply of Suitable Quality (1981 Contract), a copy of which is attached to this letter as Exhibit A [See Attachment 1]. The Agency values and respects DWR as a contractual partner and appreciates its commitment to maintain the assurances provided to North Delta water users over the last four decades. In furtherance of its duty to protect and preserve the contractual and individual rights of constituent landowners in the North Delta to a dependable water supply of suitable quality, NDWA submits these comments on the Draft Environmental Impact Report (Draft EIR) for DWR's proposed Delta Conveyance Project (DCP or Project). NDWA's comments raise serious concerns regarding the scope and adequacy of Draft EIR's environmental analysis, primarily as it relates to DWR's continued fulfillment of its contractual water supply and quality obligations under the proposed Project. NDWA also incorporates by reference the comments submitted on the Draft EIR by the Delta Independent Science Board and the Sacramento River Settlement Contractors, as though fully stated herein. These comments are intended to identify gaps in the analysis and request DWR's consideration of additional significant environmental issues, and should therefore be treated as such for purposes of responding to these comments pursuant to the California Environmental Quality Act (CEQA). (State CEQA Guidelines (CEQA Guidelines), Cal. Code Regs., tit. 14, section 15088).	This comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process. Please see Chapter 2, Purpose and Project Objectives, and Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the project's purpose and objectives, including DWR's continuing commitment to operate the State Water Project as modified to include the Delta Conveyance Project in compliance with all state and federal water quality and environmental laws. Please refer to Common Response 3, Alternatives Development and Description, regarding water rights and contracts. The EIR has been prepared in accordance with CEQA and adequately discloses the scope, severity, and magnitude of potential impacts for the environmental resources analyzed in Chapters 7 through 32. Common Response 1 also contains information regarding the length and complexity of the EIR. Please refer to Volume 2, Chapter 2, Indices of Commenters and Index of Primary Forms, to locate the letter numbers of comments provided by other entities that are of interest. Responses to all comment letters, including Delta Independent Science Board and the Sacramento River Settlement Contractors, are provided in Volume 2, Chapter 4, Response to Comments Tables.

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538-2	I. BACKGROUND In 1973, NDWA [North Delta Water Agency] was formed by a special act of the Legislature to represent northern Delta water users in negotiating a water supply and quality contract with both the United States Bureau of Reclamation ("Reclamation") and DWR, in order to mitigate the water rights impacts of the Central Valley Project ("CVP") and the State Water Project ("SWP"). In 1981, the Agency and DWR executed the 1981 Contract, which guarantees that DWR will maintain a suitable supply of water to satisfy all agricultural and other reasonable and beneficial uses in all channels within the Agency's boundaries. Specifically, the State is obligated to furnish such water as may be required within the Agency to the extent not otherwise available under the water rights of water users. (Ex. A, Art. 8(a)(ii).) The 1981 Contract contains specific minimum water quality criteria to be maintained year-round, and obligates DWR to avoid or repair damage from hydrological changes resulting from its operation of the SWP. California law also requires that the operation of the CVP and SWP do not impinge on area-of-origin water rights. The 1981 Contract also prohibits the State from conveying SWP water if doing so would cause a decrease in natural flow, increase in natural flow, reversal of natural flow direction, or alteration of water surface elevations in Delta channels to the detriment of Delta channels or water users within the Agency. (Ex. A, Art. 6.) The State must either repair or alleviate damage, improve the channels as necessary, or provide diversion facility modifications required for any seepage or erosion damage to lands, levees, embankments, or revetments adjacent to Delta channels within the Agency associated with conveyance of	Some of the information in this comment describes background information of the organization or individual commenter or general introductory text regarding certain contract(s). This type of information is not a comment on the content or adequacy of analysis in the Draft EIR. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the project's purpose and objectives, including DWR's continuing commitment to operate the State Water Project as modified to include the Delta Conveyance Project in compliance with all state and federal water quality and environmental laws. DWR also commits to complying with all existing and future agreements with diverters, including the 1981 Contract with the North Delta Water Agency. Please see response to comment 538-7 regarding the 1981 DWR–North Delta Water Agency contract. As described in multiple impact analyses contained in Chapter 9, Water Quality (e.g., Impact WQ-5), the Delta Conveyance Project would be required to operate to meet water quality objectives and standards. As described in both Chapter 3, Description of the Proposed Project and Alternatives, and Common Response 3, Alternatives Development and Description, the Delta Conveyance Project's operations do not include changes to State Water Project or Central Valley Project operations upstream of the proposed north Delta intakes. Common Response 3 describes how the project would be operated to shift diversions from the south Delta to the north Delta (during the summer and fall), or divert water in the north Delta during excess flow conditions while meeting regulatory requirements (during the winter and spring). The evaluations in the EIR, including CEQA impact analysis, provided in Chapters 5–32 identify potential changes and potentially significant environmental impacts of proposed operations for all alternatives.

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	SWP water supply. (Id.) In addition to enforcement of the 1981 Contract, the Agency has a clear statutory mandate under its Agency Act to take all actions necessary to assure that the lands within the North Delta have a dependable supply of water of suitable quality sufficient to meet present and future needs. DWR's compliance with the binding terms of the 1981 Contract is not discretionary. The legal standards that govern DWR's performance of its contractual obligations under the 1981 Contract are distinct and independent of DWR's compliance with CEQA and other applicable laws. For example, CEQA requires that DWR adopt feasible mitigation measures to reduce significant impacts of the Project to less than significant levels, but as a matter of contract law, DWR may not disregard specific requirements of the 1981 Contract based on perceived infeasibility. Unfortunately, it does not appear that DWR has adequately considered or analyzed its ability to comply with the provisions of the 1981 Contract. As further detailed below, the Draft EIR lacks sufficient analysis of certain impacts to comply with CEQA, and further indicates that implementation of the preferred alternative (Alternative 5) could result in violations of several provisions of the 1981 Contract, including, but not limited to: exceedances of contractual water quality criteria; and alteration of existing water elevations to the detriment of North Delta channels and water users. It is with this background that the Agency submits these comments on the Draft EIR.	

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538-3	II. COMMENTS An EIR is to meant serve as an "environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return. (Santiago County Water Dist. v. County of Orange (1981) 118 Cal. App.3d 818.) It is intended to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action. (No Oil, Inc., v. City of Los Angeles (1974) 13 Cal.3d 68, 86; CEQA Guidelines, § 15003(d).) To serve that purpose, the project description must provide the necessary detail to allow the public and decision-makers to make an informed decision about a project's impacts. (San Joaquin Raptor Rescue Center v. County of Merced (2007) 149 Ca1.App.4th 645, 672.) When a project will cause potentially significant environmental impacts, the EIR must propose and describe mitigation measures to minimize or avoid those effects. (East Sacramento Partnership for a Livable City v. City of Sacramento (2016) 5 Cal. App. 5th 281, 303, citing Pub. Resources Code §§ 21002.1(a), 21100(b)(3); CEQA Guidelines, § 15126.4(a)(1).) The Draft EIR, as presented, does not meet CEQA's informational requirements because it does not analyze the full range of the Project's potential impacts to water supply and quality, water diversion infrastructure, or Delta channels and embankments. For the impacts that the Draft EIR does identify, the determinations of significance appear to be derived from artificially constrained modeling that does not reflect DWR's ability to maximize the full capacity of the proposed north Delta diversion facilities. The document further fails to provide adequate, enforceable mitigation measures and monitoring	Please see Common Response 3, Alternatives Development and Description, regarding the operations described and analyzed in the EIR. As described in Common Response 3, DWR did not analyze maximizing the full capacity of the proposed north Delta diversion facilities at all times because that is not how the Delta Conveyance Project would operate. The project would be operated within criteria limits, and diversions would occur when hydrologic conditions allow within permitted volumes. The project would shift diversions from the south Delta to the north Delta (during the summer and fall) or divert water in the north Delta during excess flow conditions while meeting regulatory requirements (during the winter and spring). Furthermore, as described in Common Response 3 and Common Response 9, Hydrologic Modeling and Approach, the CalSim 3 model provides an accurate representation of the operation of the Delta Conveyance Project. Common Response 9 also discusses the methodology behind the modeling, and the use of best available science to inform the analysis in the EIR. Please also see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the evaluation of changes to surface water and water supply in Chapter 5, Surface Water, and Chapter 6, Water Supply, and the evaluation of water-dependent resources throughout the entire EIR based on those described changes in Chapters 5 and 6. As described in Common Response 1, the EIR fully discloses changes to surface water and water supply and then uses those changes to evaluate potential direct or indirect impacts on different resources, such as fish and aquatic biological resources or water quality. The EIR uses best available tools and best available science as described in Common Response 1 and within each methodology section of Chapters 7 through 32. Please also refer to Common Response 1 regarding a discussion of the use and requirements of CEQA related to mitigation measures. As described in Common Response 1, DWR proposes feasible mitigation measures for all potentially significant impacts identified by the impact analyses in Chapters 7 through 32 as summarized by the Executive

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	programs to minimize or avoid those impacts. NDWA has spent considerable time and resources analyzing the Draft EIR and its appendices, to try and better understand the potential impacts of the Project, and has retained an engineering consultant with expertise in hydrologic modeling (MBK Engineers) [Murray, Burns & Kienlen, Consulting Civil Engineers] to review and comment on the modeling that underlies the Draft EIR's analysis. The preliminary findings and recommendations of MBK Engineers are incorporated in the Agency's comments below.	Summary table titled Summary of Delta Conveyance Project Impacts and Mitigation Measures. Where feasible, these mitigation measures are identified and described as reducing most impacts to less than significant. However, if impacts cannot be reduced to less than significant levels, the EIR explains why and makes a conclusion of significant and unavoidable (e.g., Tribal Cultural Resources, Cultural Resources, Noise). Common Response 1 also describes the use of a statement of overriding considerations for significant and unavoidable impacts. Finally, please see Common Response 1 for a description of substantial evidence and the use of substantial evidence throughout the entire EIR to support CEQA determinations. The Delta Conveyance EIR has been prepared in compliance with CEQA and evaluates the full range of potential impacts that may result from construction and operation of the proposed project and its alternatives.
538-4	A. Inadequate Project Description A proper environmental impact report must provide sufficient information as to the size and scope of all major project components and existing baseline conditions, presented in an accurate and understandable project description. CEQA provides that the fundamental importance of accurately describing a project "is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." (CEQA Guidelines, § 15003(d), citing People ex rel. Department of Public Works v. Bosio (1975) 47 Cal.App.3d 495.) While NDWA [North Delta Water Agency] appreciates the statement that the proposed upstream facilities will "be operated to meet regulatory, environmental, and contractual obligations consistent with existing operations," the Agency finds the release of the Draft EIR for the DCP to be premature due to several critical inadequacies that prevent the public and local government	Please refer to Chapter 3, Description of the Proposed Project and Alternatives, for a description of the proposed project and alternatives facilities, operations and maintenance. Please also refer to clarifications in the EIR to the discussion of project operations and Common Response 3, Alternatives Development and Description, which provides additional explanation about the project description approach and facility operations. While the Central Valley Project (CVP) has not expressed interest in participating in the Delta Conveyance Project, the Chapter 3 description of Alternatives 2a and 4a includes provision of facilities to divert water supply for the CVP to understand potential impacts. Each of the resource chapters fully disclose the construction and operational impacts of these alternatives in Chapters 7 through 32.

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	agencies from being fully informed of the Project's description and scope, and the extent of the Project's environmental impacts if implemented. For instance, Alternative 5 envisions a Project operated entirely within the SWP, though the Draft EIR leaves open the possibility of involving additional exports for Reclamation's CVP. (Draft EIR, § ES.1 ["Here, as the CEQA lead agency, DWR's underlying, or fundamental, purpose in proposing the project is " to restore and protect the reliability of State Water Project (SWP) water deliveries and, potentially, Central Valley Project (CVP) water deliveries south of the Delta."].)	
538-5	Similarly, the references to operational criteria as described in Section 3.16 of the Draft EIR do not provide a clear operations plan with stable and defined parameters for how DWR will operate the north Delta intakes. The project description states use of the northern Delta intakes will depend on whether there is an "operational advantage" in DWR's discretion, but the Draft EIR does not detail that decision-making process. Because the operational details are limited, the restrictions applied to the hydrologic modeling present a scenario that DWR may not ultimately follow under the actual Project. Without a clear description of how the DCP will be operated and accompanying modeling that analyzes the effects of such operations, the public cannot meaningfully comment on the potential for significant adverse impacts or mitigation measures necessary to reduce such impacts to a less-than-significant level.	The language in Chapter 3, Description of the Proposed Project and Alternatives, regarding operational criteria and the integration of north Delta intakes with south Delta facilities has been revised to clarify that the assumptions used in the hydrologic modeling of SWP operations with the Delta Conveyance Project in place are an accurate depiction of actual project operations. DWR would operate the project as described (and consistent with criteria modeled in the EIR), consistent with all applicable existing and future regulatory requirements. Please also refer to Common Response 3, Alternatives Development and Description, regarding the adequacy of the level of details in operations descriptions and how they are accurately reflected in the modeling supporting the impact analyses.
538-6	B. Limited Range of Alternatives Under CEQA, an EIR must consider a reasonable range of feasible project alternatives that would substantially lessen the project's significant environmental effects. (Pub. Resources Code, § 21061; CEQA Guidelines, § 15126.6, subds. (d), (f).) Here, Section 3.2 of the Draft EIR describes DWR's process of	The Department of Water Resources followed CEQA requirements when identifying alternatives to be considered for evaluation in the EIR. As described in Common Response 3, Alternatives Development and Description, CEQA requires lead agencies to develop project objectives to inform the identification of the project and a reasonable range of potentially feasible alternatives. CEQA does not require consideration of

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	screening and eliminating alternatives, which culminated in three potential conveyance alignments, and diversion facilities with incremental variations in water capacity. (Draft EIR, § 3.2, at pp. 3-4, 3-5.) The range of alternatives selected for the Project is artificially narrow, which eliminates meaningful options for accomplishing the Project's purposes. Chapter 2 of the Draft EIR identifies the main purpose for the Delta Conveyance Project is to reduce risks to the State Water Project supply infrastructure posed by climate change-induced sea level rise, and seismic events. (Draft EIR, § 2.3.) In both scenarios, the risk to infrastructure is caused by potential Delta levee failures that would threaten SWP deliveries. An alternative approach to address these threats, such as extensive remediation of existing conveyance infrastructure to improve levee stability in the Delta, was not evaluated as a feasible alternative in the Draft EIR. With adequate improvements in place, a through-Delta alternative would also reduce flood risks to Delta communities and enhance other beneficial aspects relevant to maintaining the "Delta as Place," but DWR eliminated the non-tunnel alternatives in the first filter screening process by concluding that through-Delta conveyance is unavoidably infeasible due to sea level rise and seismic risks. (Draft EIR, App'x 3A, at p. 3A-35.) In doing so, DWR has essentially predetermined that the Project will involve the construction of intake and conveyance structures, in violation of CEQA. (See Save Tara v. City of West Hollywood (2008) 45 Cal.4th 116, 138.) C.	every variation of every alternative; CEQA requires an EIR to include a reasonable range of alternatives that meet most of the basic project objectives, are potentially feasible, and would avoid or substantially lessen one or more of the significant effects of the project. Common Response 3 provides an explanation of the alternatives screening process and how project objectives are used to identify potential alternatives to the proposed project. The discussion of alternatives suggested in comments or considered but eliminated explains how the screened-out alternatives do not meet project objectives or are not potentially feasible alternatives to the proposed project. A through-Delta alternative alone would not meet the south Delta water quality, fisheries issues, sea-level rise and seismic resiliency objectives and would not substantively improve Delta SWP operational flexibility.
538-7	C. Inadequate Water Quality Analysis The project contemplates two or three water intake facilities in the Sacramento River near Hood, Courtland, and possibly Clarksburg, with each intake capable of diverting up to 3,000	The EIR appropriately analyzes impacts by comparing alternative conditions to the existing condition baseline. Please see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the approach to describing the baseline and the existing regulations and requirements that are included in the baseline. Impact

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	cubic feet of water per second, which would have otherwise traveled through the Delta. (Draft EIR, § 3.2, at p. 3-4.) By taking approximately 589,000 acre-feet of fresh water from upstream intakes each year, entirely bypassing the channels and sloughs that comprise the Delta, the project will necessarily result in degraded water quality for Delta residents, agriculture, fish, and wildlife. The Draft EIR does not provide sufficient analysis of the project's effects on Delta water quality conditions relative to NDWA's [North Delta Water Agency] 1981 Contract criteria, leaving the Agency uncertain about the true extent of the modeled increases in electrical conductivity ("EC") in the Delta. Chapter 9 states that DWR's operation of the project in accordance with Water Rights Decision 1641 ("D-1641") "would not increase the frequency at which contract EC thresholds would be exceeded." (Draft EIR, § 9.0, at p. 9-3, citing Table 9-0.) But with the pending development and implementation of the Bay-Delta Water Quality Control Plan Update, DWR may have entirely different obligations to maintain water quality objectives from what is presently required under D-1641. Additionally, the criteria under D-1641 are not identical to the year-round water quality impact criteria under the 1981 Contract. Assuming that DWR will be required to operate the SWP in compliance with D-1641, and that its intent to comply with D-1641 alleviates the need to consider potential impacts, masks the effects that the Project's upstream diversions will have on Delta water quality.	WQ-5 (electrical conductivity), under the subheading Sacramento River at Emmaton and Threemile Slough, evaluates changes in EC levels at Threemile Slough with regard to criteria in the DWR–North Delta Water Agency contract. The analysis concludes that the project operations would not cause more frequent exceedance of the contract criteria relative to existing conditions. DWR prepared Appendix 4C, Alternate Regulatory Scenario Sensitivity Analysis, to describe potential conditions under implementation of an alternate regulatory scenario that could represent implementation of the Bay-Delta Water Quality Control Plan Update. As described in this appendix, water quality impacts would not be substantially different from what is disclosed in Chapter 9.
538-8	DWR acknowledges that its own modeling indicates increases in EC at the Emmaton and Three Mile Slough monitoring stations under the project, but dismisses that data as simply an indication of a "potential for long-term degradation." (Draft	The table titled Summary Comparison of Impacts on Water Quality by Alternative, in Chapter 9, Water Quality, provides a summary comparison of key water quality impacts by alternative, and is not the basis for the impact determinations themselves. Impact WQ-5 (electrical conductivity,

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	EIR, at p. 9-108.) The Draft EIR concludes that the observed long-term degradation caused by EC increases under the project "would not cause additional exceedance of applicable EC water quality criteria/objectives by frequency, magnitude, and geographic extent that would result in adverse effects," but only because DWR states it will continue to meet those requirements without further support to justify this conclusion. Importantly, Table 9-0 only describes the greatest average monthly increase in EC [electrical conductivity] at Three Mile Slough (with a high of 62 mS/cm under Alternative 5), while the 1981 Contract imposes salinity thresholds based on a 14-day average EC. (Ex. A, Art. 2.) MBK Engineers' review of the sensitivity analysis for DWR's modeling showed increases in EC, particularly in August and September at the Emmaton monitoring station. In the past several years, NDWA [North Delta Water Agency] has observed multiple exceedances of the 1981 Contract criteria at Three Mile Slough during the late summer and fall months, which could occur more frequently with the DCP. EC spikes on a less-than monthly time scale would not be evident from DWR's modeling, meaning its statement that operations under the Project would not increase the frequency of exceedances of contractual thresholds cannot be verified. DWR's determination that the identified degradation in water quality at Three Mile Slough under all studied alternatives "would not make the beneficial use impairment discernibly worse" requires additional explanation and modeling data. A Delta water user's ability to divert water of usable quality is decided on a daily basis, sometimes only during certain tidal cycles. Thus, improvements made during periods when water	or EC) provides a complete analysis of changes in EC in the Delta, including changes in EC relative to criteria in the DWR-NDWA Agreement. The assessment compares monthly average EC levels to the criteria which, as noted in the comment, are 14-day running average criteria. Monthly average EC were utilized in the analysis because, as described further in Common Response 10, Surface Water Quality and Groundwater Resources, the modeled inflows to DSM2 are on a monthly time-step. Thus, the DSM2 output is most appropriately evaluated as a monthly average when comparing EC levels for the project alternatives to that for existing conditions. Because analysis of criteria compliance was on a comparative basis to determine whether project operations would cause more frequent exceedance of contract criteria, use of monthly average EC is appropriate. DWR will continue to meet its obligations under its contract with NDWA with operation of the Delta Conveyance Project.

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	quality is already high cannot offset degradation of water quality during periods when the quality is low, contrary to what monthly averages may suggest. DWR should incorporate analysis of its ability to comply with the 14-day mean EC criteria of the 1981 Contract as part of the Draft EIR's baseline condition. As currently presented, the water quality analysis prevents a clear understanding of the impacts that can be attributed to the project.	
538-9	D. Insufficient Analysis of Surface Water and Water Supply Impacts. The alternatives for the Project will alter water elevations in the Delta, including reduced surface flows in late summer and early fall months. (Draft EIR, Section 5.3.) As noted above, changes to surface water elevations are of particular importance to NDWA [North Delta Water Agency] because of the protections in the 1981 Contract, which prohibit adverse modifications of flow patterns in the Delta. However, the Draft EIR states that changes to surface water resources and water supplies, "by themselves" are not considered impacts under CEQA, and therefore only describes the potential changes as a basis for understanding potential effects on other surface water-related resources. (Draft EIR, Section 5.0 at p. 5-2.) DWR's failure to consider surface water impacts as environmental impacts requiring analysis is incompatible with the clear requirement of CEQA to analyze environmental impacts. (See Pub. Resources Code, section 21002 [requiring public agencies to avoid or lessen significant environmental impacts of projects]; section 20160.5 [defining "environment" as the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water..."].)	The analysis contained in the EIR is not consistent with the assertion by the commenter that the EIR fails to analyze surface water and water supply impacts. Under CEQA, changes to water supply, by themselves, are not considered an impact and are not evaluated as impacts in Chapter 5, Surface Water, and Chapter 6, Water Supply. Changes to surface water and water supply are discussed in these chapters to provide a basis for understanding the impact assessments associated with other resource chapters in the EIR. Chapter 5 provides the simulated changes in river conditions that demonstrate that long-term average monthly flows under project operations would be similar to existing conditions. Chapter 3, Description of the Proposed Project and Alternatives, explains the operational criteria. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding a discussion of Chapters 5 and 6 and the evaluation of water-dependent resources throughout the EIR. Chapters 5 and 6 disclose the changes in hydrologic characteristics attributable to each project alternative, including reservoir storage, river flows, and water deliveries. See Chapters 7 through 32 regarding an analysis of environmental impacts and proposed mitigation measures on multiple environmental resources related to surface water and water supply changes, including Chapter 7, Flood Protection, Chapter 8, Groundwater, Chapter 9, Water Quality, Chapter 12, Fish and Aquatic

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	By only analyzing surface water and water supply impacts indirectly through the effects on other surface-water related resources, the Draft EIR fails to analyze the full environmental impacts attributable to the Project. The programs, projects, and policies considered for cumulative impact analysis are identified in Table 3C-2 of the Draft EIR, but the Draft EIR excludes any analysis of cumulative impacts on surface water (Chapter 5) or water supplies (Chapter 6), contrary to CEQA guidelines. (CEQA Guidelines, sections 15130(a)(1), (b).)	Resources, Chapter 13, Terrestrial Biological Resources, Chapter 15, Agricultural Resources, Chapter 29, Environmental Justice, and Chapter 31, Growth Inducement. Please review those chapters for the analyses of potential cumulative impacts affecting those resources.
538-10	Despite acknowledging the numerous individual diverters and communities who depend on reliable Delta water supplies in Section 6.2.1.5, the Draft EIR's analysis of changes to water supply under the Project alternatives only addresses changes to SWP deliveries and potentially CVP deliveries. (Draft EIR, at p. 6-48 to 6-49.) The Draft EIR should describe the impacts on the water supplies within the Delta, including surface water diversions, municipal drinking water systems, water treatment plants, as well as the impacts to groundwater that is relied upon by homes, businesses, and farms, when less Delta surface water is available to diverters. The absence of that discussion from the Water Supply chapter of the Draft EIR is a glaring omission, in light of the significant effects noted in the Groundwater and Water Quality chapters.	As described in Chapter 2, Purpose and Project Objectives, the basic objective of the project is to restore and protect the reliability of SWP water deliveries. The project is not proposing changes to operations or amount of water supply, including storage, provided by upstream facilities. Please refer to responses to comments 538-8 and 538-9 regarding the use of information in Chapter 5, Surface Water, and Chapter 6, Water Supply, throughout the EIR. Changes in river conditions of the Sacramento River downstream of the north Delta intakes are evaluated and disclosed in Chapter 5. These changes are referenced where appropriate in resource chapters. For example, changes in river flow are used in the evaluation of water quality in Chapter 9, Water Quality. Chapter 9 describes that Delta water quality impacts would be less than significant or less than significant with mitigation incorporated. Therefore, Delta water supplies and surface water diversions within the Delta would not experience a degradation in water quality under project operations when compared to baseline existing conditions. Chapter 21, Public Services and Utilities, addresses potential impacts on public service systems related to water supply (Impact UT-2). Regarding impacts on groundwater, Chapter 8, Groundwater, discusses the potential for impacts on groundwater as a result of both construction and operations, concluding that impacts on groundwater elevation (Impact GW-2), groundwater supplies (Impact GW-3) and groundwater storage

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		(Impact GW-4) would be less than significant, but that DWR would implement Mitigation Measure GW-1 to further reduce the less-than-significant impacts. Agricultural impacts are evaluated in Chapter 15, Agricultural Resources; Impact AG-3 addresses groundwater elevations during construction and potential impacts on agricultural resources and water quality during operations and potential impacts on agriculture. This impact analysis concludes impacts on agricultural resources during construction and operation would be less than significant.
538-11	Conversely, in the event that Project operations result in increases in surface water above historical levels during the growing season, unwanted and involuntary sub-irrigation could increase due to increased hydro-static pressure caused by the increase in seepage. Many crops grown within NDWA [North Delta Water Agency], including grapes, alfalfa, kiwis, apples, pears and cherries, are extremely sensitive to increased water within plant root zones. During the growing season, reduced oxygen to the root zone would reduce crop yield and, potentially, result in the loss of trees and vines. This will be damaging to crops and to Delta agriculture in general. To the extent increases in water elevations could be mitigated through increased drainage pumping operations of the reclamation districts, the cost of such operations would be substantial and should be a required obligation of the Project proponent through an enforceable mitigation measure. The Draft EIR must include an analysis of impacts -- including cumulative impacts -- of the DCP on surface water and local water supplies within the Project area, not just as an effect on the other resource categories. Impacts analysis and disclosures in the EIR need to provide details on specific locations, durations, timing, size, and intensity of changes to water supply and surface water elevations in order to provide the	Please see response to comment 538-9 regarding the discussion of changes to surface water. Agricultural drainage is addressed in Chapter 8, Groundwater, Impact GW-5. As documented in Appendix 8B, Impact Analysis: Groundwater Model Results, the maximum change in annual agricultural drainage in the Delta Region under any project alternative is 1.33% compared to existing conditions, which is considered less than significant. Furthermore, under Mitigation Measure GW-5, existing or new dewatering wells would be used to extract groundwater and reduce groundwater elevations to average seasonal elevations. Chapter 8 discusses the potential for impacts on groundwater as a result of both construction and operations and concludes that impacts would be less than significant. In addition, DWR will implement Mitigation Measure GW-1 to further reduce the less-than-significant impacts on groundwater. Additionally, Chapter 7, Flood Protection, and Chapter 15, Agricultural Resources, provide an assessment of potential impacts as a result of seepage, but with the incorporation of Mitigation Measures GW-1 and AG-3, the impacts are less than significant. Please also see Chapter 3, Description of the Proposed Project and Alternatives, which describes cutoff walls that would be used to help control seepage.

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	public with a useful environmental document and ability to identify appropriate mitigation measures that will reduce adverse impacts to a less than significant level.	
538-12	E. Inadequate Mitigation Details A public agency cannot approve a project as proposed if there are omitted feasible alternatives or mitigation measures available that would substantially lessen the significant environmental effects of the project. (Pub. Resources Code, § 21002.) As stated in the CEQA Guidelines, "[a]rgument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence. (CEQA Guidelines, § 15384.) The mitigation measures provided in the Draft EIR are too vague or otherwise defer to further study in the future, leaving NDWA [North Delta Water Agency] unable to confirm that the proposed mitigation is in fact adequate to reduce the impacts of the Project to less than significant.	The comment assertions regarding the inadequacy of mitigation measures contained in the EIR are not supported by the analyses contained in the EIR. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the adequacy of mitigation including a description of the required action of the mitigation, timing of implementation, responsible parties, etc. In addition, the Compensatory Mitigation Plan (CMP) discusses studies that would be required for future mitigation implementation. Due to the level of current project design, it is infeasible to know the specific nature of some of the restoration described in the CMP. These measures will be implemented with specific performance standards and comply with required ratios and timing requirements set forth by responsible and trustee agencies prior to issuance of any permits needed ESA and CESA compliance. Please refer to Common Response 3, Alternatives Development and Description, regarding the selection of alternatives including a reasonable range of feasible alternatives. Please also see Common Response 3 regarding development of a reasonable range of feasible alternatives evaluated in the EIR that meet the basic project objectives.
538-13	The analysis and conclusions in the Draft EIR foster uncertainty because they make generally optimistic assumptions about the extent and duration of Project impacts, without site-specific analysis or scientific justification. Failure to ensure the implementation and effectiveness of mitigation measures could result in an increase in significant impacts that must be analyzed. The success of the Project's mitigation measures is also not certain, but the Draft EIR fails to disclose that uncertainty.	The EIR was developed using the best available science and includes impact findings that are supported by substantial evidence. The use of best available science and the concept of substantial evidence as defined by CEQA is described in Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues. The assertion of the comment that DWR failed to fully analyze potential impacts is not supported by the contents of the EIR. More than 50 individual impacts are evaluated in the EIR across 31 resources, and more than 80 mitigation measures are proposed throughout the EIR to reduce impacts on various resources (please refer to the Executive Summary table

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	The failure to fully analyze potential impacts undermines the credibility of the Draft EIR as a reliable environmental document, thereby harming the public's trust in DWR and the State to uphold their statutory, regulatory, and contractual obligations to protect the unique and valuable ecosystem, water supply, agriculture, and communities of the Delta. Readers should be informed of the potential failure of DWR's proposed mitigation measures to minimize or offset the analyzed environmental impacts.	titled Summary of Delta Conveyance Project Impacts and Mitigation Measures). Please refer to response to comment 538-12 regarding the use of and adequacy of mitigation measures in the EIR. The Mitigation Monitoring and Reporting Program (MMRP) will ensure successful implementation of mitigation measures. Additionally, the Compensatory Mitigation Plan (CMP) identifies performance standards for mitigation areas to ensure they meet desired conditions. The CMP would ensure wetlands have certain elements (hydrology, hydric soils, and hydrophytic vegetation) that can be measured to be classified as a wetland. Wetlands would be created, restored, or improved at certain ratios based on agency requirements, and monitored to ensure they meet and continue to meet these criteria /performance standards. Other habitats would have to meet other standards, such as upland areas that would have to have certain constituent native grasses and/or shrubs and trees, habitats created to compensate loss of giant garter snake habitat would be created to include a mix of measurable areas containing open water, emergent vegetation, and upland refugia. This information will be contained in the MMRP. The various requirements and descriptions of the mitigation measures, including the CMP, and the required enforceability of the MMRP will prevent the failure of mitigation measures. DWR will comply with all requirements of the MMRP as required by CEQA. Please refer to Chapter 33, Other CEQA-Required Analyses, specifically the section titled Public Trust Considerations, for DWR's evaluation of public trust resources, as well as Common Response 17, Public Trust. In addition, many of the mitigation measures proposed throughout the environmental document, such as those for water quality, fish and aquatic resources (i.e., salmon), and terrestrial biological resources, often have a secondary benefit of protecting or minimizing effects related to public trust resources such as in-water recreational resources and protection of public lands. Please also refer to Common Response 1 regarding the use of best

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		available science in the EIR and a discussion of uncertainty. As described in Common Response 1, the EIR focuses on minimizing uncertainty using the best available science, reasonable methodologies, and identifying uncertainty as appropriate. The existence of uncertainty does not render the impact analysis, CEQA determinations, or mitigation measures invalid.
538-14	III. CONCLUSION The North Delta Water Agency has long been a stakeholder and highly engaged participant in DWR's operations of the SWP. Under the 1981 Contract, the Agency expressly consented to DWR's export of water, so long as the State remains in compliance with its contractual obligations. As proposed, it is not clear that DWR's operation of the DCP will avoid or adequately mitigate the significant impacts to affect water quality and supplies in the Delta. Meaningful public review is the strongest assurance of the adequacy of the Draft EIR. For the reasons laid out above, the Draft EIR does not meet the requirements of CEQA. We appreciate the opportunity to provide these comments for consideration, and request that DWR revise the document to address the issues raised herein.	Responses to the individual comments summarized in this conclusory comment are provided herein. The comment assertions regarding the impacts on water quality and supplies are not consistent with the analyses contained in the EIR. As described in Chapter 3, Description of the Proposed Project and Alternatives, the project would be operated consistent with regulatory requirements, including State Water Board Water Right Decision 1641 (D-1641). Please also see Chapter 3, section titled Real-Time Operational Decision-Making Process, for information on the real-time decision making specific to the proposed north Delta intake operations. The analysis of potential water quality impacts provided in Chapter 9, Water Quality, found the impacts to be less than significant or less than significant with mitigation incorporated (Impact WQ-6). Please also see the analyses provided in Chapter 6, Water Supply which is considered in and provides the basis for understanding the impact assessments associated with other EIR resource chapters. Please refer to Chapter 35, Public Involvement, and Common Response 2, Public Outreach Activities, regarding the outreach activities conducted throughout the EIR process to provide public information and encourage public participation and comment.
538-15	[ATT 1: Contract for the Assurance of a Dependable Water Supply of Suitable Quality Between the Department of Water Resources and North Delta Water Agency January 28, 1981.]	The commenter provided an attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-1	The Sacramento Regional County Sanitation District (Regional San) submits the following comments on the Draft Environmental Impact Report (DEIR) prepared for the Delta Conveyance Project (DCP or Project) pursuant to the California	The comment assertions regarding the significance of project impacts (e.g., landside and hydrologic conditions) are not consistent with the analyses in the EIR. The potential impact from construction and operation of the Delta Conveyance Project on "hydrologic conditions" is analyzed in multiple

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	Environmental Quality Act (CEQA) and proposed by the Department of Water Resources (DWR). Construction and operation of the DCP, which proposes to construct new diversion and conveyance facilities to carry water from points in the North Delta through an underground system to facilities in the South Delta, will significantly transform current landside and hydrologic conditions in the Delta. Regional San provides wastewater collection, conveyance, and treatment services to more than 1.4 million people in the urbanized area of Sacramento County and the City of West Sacramento in Yolo County. The Project has the potential to significantly affect the operations of Regional San's existing and planned facilities, including Harvest Water, Regional San's highly regarded recycled water program that will support agricultural irrigation while protecting critical wildlife habitat and contributing to groundwater sustainability efforts.	chapters of the EIR including: Chapter 5, Surface Water; Chapter 6, Water Supply; Chapter 7, Flood Protection; Chapter 8, Groundwater; and Chapter 9, Water Quality. The potential impact on "landside" conditions in the Delta is analyzed in multiple chapters of the EIR including Chapter 10, Geology and Seismicity; Chapter 11, Soils; and Chapter 14, Land Use. Please refer to Appendix 3C, Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions, which provides a discussion of the Sacramento Regional Sanitation District (Regional San) Harvest Water project in context of the Delta Conveyance Project. DWR has coordinated with Regional San and Sacramento Area Sewer District (SacSewer) in the past and is committed to future engagement and coordinating with all interested parties. Please refer to response to comment 539-48 regarding coordination with utility provider SacSewer.
539-2	BACKGROUND The Sacramento Regional Wastewater Treatment Plant [Sacramento Regional County Sanitation District] (SRWTP) facility, owned and operated by Regional San, is one of the largest wastewater treatment plants in the State of California, employing over 400 people, operating 24 hours a day, seven days per week. Since the 1970s, Regional San has been safely conveying, treating, and discharging treated wastewater to the Sacramento River at Freeport, currently averaging discharge of 115 million gallons per day (MGD) and permitted for 180 MGD. Regional San's discharge from the SRWTP is authorized and regulated under a National Pollutant Discharge Elimination (NPDES) permit issued by the California Regional Water Quality Control Board (RWQCB), Central Valley Region, most recently	This information describes the background of the organization or individual commenter. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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	in 2021. Sacramento Area Sewer District (SacSewer) has multiple facilities and pump stations located within the region. SacSewer's pipes carry sewage to Regional San's system, which conveys the sewage to the SRWTP. The SRWTP is a critical public land use in the Delta.	
539-3	Regional San [Sacramento Regional County Sanitation District] is committed to the health of the Delta ecosystem and has invested substantial resources in myriad projects aimed at promoting a healthy Delta environment. For example, we have worked closely with the Delta Stewardship Council since 2009 in the development of the Delta Plan, Delta Science Plan, and various Delta Science Program and Delta Independent Science Board work products. Regional San has been devoted to the production and implementation of a Delta Plan that serves the Delta Reform Act's coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem (Coequal Goals). Project impacts, as discussed in detail throughout this letter, would present a substantial obstacle to these ongoing efforts.	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
539-4	The DCP proposes to construct and operate two or three new intakes, depending on the final conveyance concept chosen, located downstream of the SRWTP's [Sacramento Regional Wastewater Treatment Plant's] treated wastewater discharge location. One of the intakes is located about one mile downstream from the edge of the existing harmonic mean flow-based human health mixing zone provided in the SRWTP NPDES permit. The Project's proximity alone raises concerns that Regional San operations and critical public infrastructure could be substantially impacted by the Project, and we are particularly concerned that DWR has not consulted with Regional San and SacSewer regarding potential impacts and possible mitigation strategies that could minimize any adverse	This is an introductory paragraph to the comment letter provided. The comment provides conclusory statements which do not contain sufficient detail to be responded to here. Detailed responses to the detailed comments provided in this letter regarding potential impacts on Regional San are provided herein. DWR has coordinated with Sacramento Regional Sanitation District and Sacramento Area Sewer District in the past and is committed to future engagement and coordinating with all interested parties. Please refer to response to comment 539-48 regarding coordination with utility provider SacSewer. Please see response to comment 539-38 regarding water quality impacts

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	impacts. Based on the potential adverse impacts to the SRWTP, Regional San opposes any alternative that would include the northernmost intake (Intake A). Our numerous prior comments and testimonies on related past projects, including the Bay Delta Conservation Plan (BDCP) and California WaterFix, all expressed concerns similar to those discussed in detail below. Based on our review of the DEIR and appendices, we have concluded that the Project has the potential to cause significant impacts to Regional San and to the environment in the Delta, many of which the DEIR fails to identify and mitigate, contrary to CEQA. These comments, which were prepared in consultation with technical experts on hydrology, water quality, and groundwater, identify several key areas where the DEIR is deficient, as described herein.	and National Pollutant Discharge Elimination System (NPDES) permit obligations.
539-5	I. PROJECT OBJECTIVES A project's objectives should not be so narrowly defined that they preclude consideration of reasonable alternatives for achieving the project's underlying purpose. [Footnote 1: North Coast Rivers Alliance v. Kawamura (2015) 243 Cal.App.4th 647, 666-668 (NCRA v. Kawamura); In re Bay-Delta Programmatic Envt'l Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1166.] In 2019, Governor Newsom signed Executive Order N-10-19 [Footnote 2: Executive Order N-10-19 (Apr. 19, 2019), available at https://www.gov.ca.gov/wp-content/uploads/2019/04/4.29.19-EO-N-10-19-Attested.pdf] directing state agencies to establish a set of actions to meet California's water needs through the 21st century, giving rise to the California Water Resilience Portfolio [Footnote 3: California	DWR agrees that no single solution can fully address the state's water challenges and that the purpose of the proposed project is not to fully address the state's water challenges. Rather, the Delta Conveyance Project is one action identified in the California Water Resilience Portfolio which includes numerous other local and regional water management and conservation actions. The purpose of Delta Conveyance Project is to restore and protect the reliability of SWP water deliveries and objectives were identified based on known issues that could impact reliability of SWP deliveries in the future and to allow DWR to identify a reasonable range of alts that could potentially address the project's purpose and objectives. Please see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding the relationship between the Delta Conveyance Project and Executive Order N-10-19 and the California Water Resilience Portfolio.

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	Water Resilience Portfolio (July 2020) (Water Resilience Portfolio), available at https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/Final_California-Water-Resilience-Portfolio-2020_ADA3_v2_ay11-opt.pdf]. Recognizing that "no single solution can fully address the state's water challenges," the Portfolio identified a suite of actions aimed at addressing issues of water supply reliability and environmental protection using a "broad, diversified approach," including a plan to "modernize conveyance of a critical portion of the state's water supply through the Sacramento-San Joaquin Delta." [Footnote 4: Water Resilience Portfolio, pp. 5, 7]. The DCP's stated purpose is "to restore and protect the reliability of SWP water deliveries and, potentially, CVP water deliveries south of the Delta, consistent with the State's Water Resilience Portfolio in a cost-effective manner." [Footnote 5: DEIR Ch. 2 at 2-2:24-26]. Several related objectives follow this fundamental purpose: - To help address anticipated rising sea levels and other reasonably foreseeable consequences of climate change and extreme weather events. - To minimize the potential for public health and safety impacts from reduced quantity and quality of SWP water deliveries, and potentially CVP water deliveries, south of the Delta as a result of a major earthquake that could cause breaching of Delta levees and the inundation of brackish water into the areas where existing SWP and CVP pumping plants operate in the southern Delta.	Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the discretion CEQA affords a lead agency in defining the project purpose and objectives under CEQA and scope of the purpose and objectives statements in the EIR, which is not inappropriately narrow. Please refer to Appendix 3A, Identification of Water Conveyance Alternatives, and Common Response 3, Alternatives Development and Description, regarding the alternatives development process and the reasonable range of feasible alternatives developed and considered in the EIR. CEQA Guidelines Section 15124 (b) requires a clearly written statement of objectives to help the lead agency develop a reasonable range of alternatives to evaluate in the EIR. The project objectives presented in Chapter 2, Purpose and Project Objectives, address what the Delta Conveyance Project is focused on accomplishing, in part, to further the California Water Resiliency Portfolio action to modernize Delta conveyance infrastructure and improve water supply reliability. The EO criteria and priorities are intended to guide the development of the portfolio of options to improve water resilience in California as a whole and are not intended to be CEQA alternatives screening criteria for project EIRs.

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	- To protect the ability of the SWP, and potentially the CVP, to deliver water when hydrologic conditions result in the availability of sufficient amounts of water, consistent with the requirements of state and federal law, including the California and federal Endangered Species Acts and Delta Reform Act, as well as the terms and conditions of water delivery contracts and other existing applicable agreements. - To provide operational flexibility to improve aquatic conditions in the Delta and better manage risks of further regulatory constraints on project operations. [Footnote 6: Id. at 2-3:29 – 2-4:4]. The Water Resilience Portfolio was designed to facilitate innovation in the face of a changing climate and challenges to water security. [Footnote 7: Water Resilience Portfolio, p. 6]. The Governor's Executive Order directing establishment of the Portfolio mandated a comprehensive approach to solving the state's water needs, identifying seven principles on which the Portfolio was to be based: 1. Prioritize multi-benefit approaches that meet several needs at once. 2. Utilize natural infrastructure such as forests and floodplains. 3. Embrace innovation and new technologies. 4. Encourage regional approaches among water users sharing watersheds. 5. Incorporate successful approaches from other parts of the world. 6. Integrate investments, policies, and programs across state government. 7. Strengthen partnerships with local, federal, and tribal	

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	governments, water agencies and irrigation districts, and other stakeholders. [Footnote 8: Water Resilience Portfolio, pp. 6-7; see also Executive Order N-10-19]. In light of the Water Resilience Portfolio's clear directive, repeated often throughout its pages, that reliance on any one water source must be reduced and water supplies must be diversified, [Footnote 9: Water Resilience Portfolio, pp. 5, 7, 17-18] it is clear that the Project's objectives are too narrowly defined, focusing only on benefits to State Water Project operations and south-of-Delta water deliveries. As described more fully in the following sections, the Project falls short of achieving the above principles.	
539-6	The unreasonably narrow range of proposed alternatives, discussed in Section II [Comments 10-16], does not offer the range of multi-benefit approaches designed to meet multiple needs outlined in Principle 1 [Of the water resistance portfolio, See comment 5], but this could be addressed with the addition of an alternative proposing through-Delta conveyance and including a mechanism for levee improvements and maintenance. A through-Delta conveyance alternative also would avoid conflicts with Regional San's facilities and operations, consistent with the Delta Plan policy P2. (See Section III.A.1..)	Please refer to Common Response 3, Alternatives Development and Description, section titled Comment-Suggested Infrastructure and Water Management Alternatives regarding facility location relative to Regional San's facilities and operations. See also the Intake Site Identification and Evaluation technical memorandum (Delta Conveyance Design and Construction Authority 2022a) in the Engineering Project Report. The Department of Water Resources followed CEQA requirements when identifying alternatives to be considered for evaluation in the EIR. As described in Common Response 3, CEQA requires lead agencies to develop project objectives to inform the identification of the project and a reasonable range of potentially feasible alternatives. CEQA requires an EIR to include a reasonable range of alternatives that meet most of the basic project objectives, are potentially feasible, and would avoid or substantially lessen one or more of the significant effects of the project. Common Response 3 provides an explanation of the alternatives screening process and how project objectives are used to identify potential alternatives to the proposed project. The section titled Approach to Alternatives Screening explains how the screened-out alternatives do not meet project objectives

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		or are not potentially feasible alternatives to the proposed project. The through-delta conveyance alternative was found to not meet climate change, seismic and water supply resiliency project objectives and was screened from further consideration in the EIR. The California Water Resilience Portfolio identifies modernization of Delta water supply infrastructure as an action needed to improve water supply resiliency for the health and welfare of all Californians. The Delta Conveyance Project is meant to complement and support other portfolio water supply management actions.
539-7	The Project is in direct conflict with Principle 6's [of the water resistance portfolio; see comment 5] call for the integration of investments, policies, and programs across governments, due to the Project's potentially adverse impacts to Regional San's [Sacramento Regional County Sanitation District] Harvest Water program and related impacts to the state's Water Storage Investment Program (WSIP), which provides a significant portion of Harvest Water funding. DWR's failure to consult with Regional San in the preparation of the DCP, which would have helped ensure that the Project would not result in any adverse effects to Harvest Water and other Regional San operations, likewise makes the Project inconsistent with both this Principle and Principle 7's edict to strengthen partnerships with local, federal, and tribal governments, water agencies, and irrigation districts, and other stakeholders.	Please see response to comment 539-5 regarding the relationship between the Delta Conveyance Project and the California Water Resilience Portfolio. As described in Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, making a formal consistency determination or analysis with the Portfolio is not required of the Delta Conveyance Project nor a requirement of CEQA. DWR has consulted with Sacramento Regional Sanitation District regarding the Delta Conveyance Project and the Harvest Water Project. Please see response to comment 539-33 regarding potential direct impact on lands prioritized for the implementation of the Harvest Water Program associated with project facilities.
539-8	The objectives reference providing "operational flexibility to improve aquatic conditions in the Delta," yet the Project does not commit to improving aquatic conditions, nor does it include any objectives that would protect water quality in the Delta from degradation, and the DEIR provides no evidence to demonstrate that the Project would be capable of improving aquatic conditions in the Delta, as explained more fully in Section VII's [comment 52] discussion of mitigation measures	Please see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the scope of the purpose and objectives statements under CEQA. As noted in this response and in Chapter 2, Project Purpose and Objectives, the fundamental purpose of the project is to restore and protect the reliability of SWP water deliveries and, potentially, CVP water deliveries south of the Delta, consistent with the State's Water Resilience Portfolio in a cost-effective manner DWR would operate the project to adhere to all state and

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	below. Indeed, the Project worsens aquatic conditions, including impacts to fish, rather than improving them.	federal water quality projections and requirements as described throughout the EIR The comment that the project would worsen aquatic conditions is not supported by the analysis provided in the EIR. As described in Chapter 12, Fish and Aquatic Resources, impacts would be less than significant or less than significant after of the implementation of mitigation. In addition, the Delta Conveyance Project would comply with applicable water quality objectives and regulations as described in Chapter 3, Description of the Proposed Project and Alternatives, (e.g., D-1641 and the Bay-Delta WQCP) and as analyzed in Chapter 9, Water Quality.
539-9	As Regional San [Sacramento Regional County Sanitation District] identified in its April 17, 2020 comments on the Notice of Preparation (NOP) for the DEIR, "framing Project objectives so narrowly could discourage consideration of alternatives to the Project that would protect and restore the Delta environment." [Footnote 10: Regional San Delta Conveyance Project NOP Scoping Comments (Apr. 17, 2020), p. 2]. A lead agency should not adopt artificially narrow project objectives that would preclude consideration of reasonable alternatives for achieving the project's underlying purpose. [Footnote 11: NCRA v. Kawamura, supra, 243 Cal.App.4th at p. 668; County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185, 203 (EIR for expansion of groundwater extraction failed to consider water conservation as alternative to increased groundwater extraction)]. This approach is not only inconsistent with CEQA's mandate to offer a reasonable range of alternatives and the Water Resilience Portfolio's instruction to employ a diversified approach, but it is also inconsistent with the Delta Reform Act's coequal goals of improving water supply reliability for the state (not just Delta exporters) and protecting, restoring, and enhancing the Delta ecosystem. The Project's objectives should be expanded to include prevention	The project objectives are not artificially narrow. CEQA does not restrict an agency's discretion to identify and pursue a particular project designed to meet a particular set of objectives. Please see responses to comments 539-5 and 539-8 regarding the purpose and objectives of the Delta Conveyance Project and the development of the reasonable range of feasible alternatives evaluated in the EIR. Please refer to Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, as well as Appendix 3E, Delta Reform Act Considerations, for a discussion regarding the Delta Conveyance Project and the relationship with the Dela Reform Act and coequal goals. Please see Chapter 5, Surface Water, and Chapter 21, Public Services and Utilities, regarding potential impacts related to operations and potential impacts on public services and utilities. As disclosed in Chapter 21, all impacts on public services and utilities are identified as less than significant.

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	of water quality degradation in the Delta and avoidance of adverse impacts to Delta public facilities, including the SRWTP [Sacramento Regional Wastewater Treatment Plant], which is consistent with the Delta Plan, as discussed further in Section III, below [see comments 17-20].	
539-10	II. THE DEIR PRESENTS AN IMPERMISSIBLY NARROW RANGE OF ALTERNATIVES TO THE PROPOSED PROJECT It is a fundamental policy of CEQA that, as part of reducing a project's environmental impacts, an EIR must identify a reasonable range of alternatives and mitigation measures that could avoid or substantially lessen the project's significant impacts. [Footnote 12: Pub. Resources Code, §§ 21002, 21002.1(a), 21100(b)(4), 21150]. This discussion of alternatives and mitigation measures, which allows the public and decision makers to evaluate the ways in which a project might achieve its objectives while avoiding some of its impacts, has been called "the core of an EIR [Footnote 13: Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564 (Goleta Valley)]. In considering alternatives to a proposed project, a lead agency must first identify potential alternatives that satisfy threshold criteria, including whether an alternative could substantially reduce significant impacts while attaining most project objectives. An EIR must include an evaluation of the alternatives it considered and those it eliminated, including "sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." [Footnote 14: Cal. Code Regs., tit. 14, § 15126.6(d) (hereinafter referenced by title number followed by C.C.R.)]. Included should be a discussion of the rationale used in selecting alternatives, as well as an explanation of why other alternatives were rejected as infeasible [Footnote 15: 14 C.C.R	The Department of Water Resources followed CEQA requirements when identifying alternatives to be considered for evaluation in the EIR. As described in Common Response 3, Alternatives Development and Description, CEQA lead agencies develop project objectives to inform the identification of the project and a reasonable range of potentially feasible alternatives; an EIR should include a reasonable range of alternatives that meet most of the basic project objectives, are potentially feasible, and would avoid or substantially lessen one or more of the significant effects of the project. Appendix 3A, Identification of Water Conveyance Alternatives, of the EIR and Common Response 3 provides an explanation of the alternatives screening process and how project objectives are used to identify potential alternatives to the proposed project. The purpose and project objectives of the Delta Conveyance Project are presented in Chapter 2, Purpose and Project Objectives, of the EIR. The contents of the EIR do not support the comment that alternatives to the proposed project do not reduce or eliminate one or more significant impact. For example, alternatives with 3,000 cfs intake capacity would reduce footprint impacts at facility locations and operational effects of intakes compared to both the proposed project identified in the 2020 Notice of Preparation (NOP) and Alternative 5. Alternative conveyance alignments would also offer shorter conveyance distances and reduce certain localized impacts on land uses and agricultural lands near conveyance facilities compared to both the 2020 NOP-identified proposed project and Alternative 5. Please refer to EIR chapters 7–32 for analysis of the variation of impacts across project alternatives. Please also refer to Common Response 3 for an explanation of why the range of alternatives

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	§ 15126.6©]. Though the selected alternatives need not lessen or mitigate every environmental impact anticipated by the proposed project, they must be environmentally superior in some way [Footnote 16: Id., § 15126.6(b)]. Because the purpose of CEQA's environmental review process is to identify ways to reduce adverse impacts resulting from proposed projects, an EIR's discussion of alternatives must "focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."[Footnote 17: Id., § 15126.6(b), €(2)]. If an EIR concludes that no environmentally superior alternatives are available, it must support its conclusion with enough facts and analysis to allow decision makers to evaluate whether that conclusion is correct [Footnote 18: Habitat & Watershed Caretakers v. City of Santa Cruz (2013) 213 Cal.App.4th 1277, 1305]. The Project's 2020 NOP identified the proposed project as a "6,000 cubic feet per second (cfs) diversion capacity alternative … located on either a central or eastern alignment from intakes in the north Delta to pumping facilities in the south Delta near Clifton Court Forebay." [Footnote 19: DEIR Executive Summary at ES-12:38-40]. DWR asserts that it considered alternatives suggested during the current DEIR's scoping period, as well as those proposed during its consideration of the Bay Delta Conservation Plan (BDCP) and its successor, California WaterFix [Footnote 20: DEIR Executive Summary at ES-12:11-14].. Twenty-one potential alternatives were identified, and were screened through a "two-level filtering process," during which alternatives were assessed first for whether they would meet	evaluated in the EIR are reasonable and not narrowly defined.

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	the project's purpose and objectives, and then evaluated for whether they tended to lessen the environmental impacts of the proposed project. [Footnote 21: DEIR Executive Summary at ES-12:15-30; Project Description, Ch. 3, p. 3-5; Appendix 3A, p. 3A-1 et seq.]. Eleven alternatives were eliminated during the first phase of the filtering process for their failure to meet at least two of the four criteria of climate resiliency, seismic resiliency, water supply reliability, and operational resiliency [Footnote 22: DEIR App. 3A, pp. 3A-27 ; 3A-30]. Some of those alternatives rejected by Filter 1, however, would have ultimately met the Project's objectives while also reducing Project impacts. In considering alternatives for their tendency to provide "operational resiliency," for example, the DEIR narrowly identified only dual-conveyance systems with north Delta intakes as meeting that objective [Footnote 23: DEIR App. 3A at 3A-30:3-5]. Alternatives that suggested a range of water supply reliability approaches, or those that favored a through-Delta conveyance, or those that advocated for a more comprehensive list of intake locations, were rejected for their lack of "operational flexibility," without explanation of how they failed to satisfy this objective. Alternatives that proposed new intakes located outside of the narrow zone considered in the DEIR would have provided the SWP with the operational flexibility it seeks by expanding its diversion locations while avoiding some of the impacts to Delta communities and SRWTP and SacSewer facility operations. The DEIR, however, rejected these alternatives without any evidence to support the conclusion that they failed to meet Project objectives. The DEIR's screening under Filter 1, therefore, was inadequate and reduced the field of alternatives to an unreasonably narrow range, even before Filter 2 was applied. Of the remaining alternatives, "[o]nly the dual conveyance	

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	Bethany Reservoir alignment [Alternative 5] passed Filter 2 screening for its potential to avoid or reduce impacts compared to the proposed project."[Footnote 24: DEIR Executive Summary, p. ES-12; see also DEIR App. 3A at 3A-38:30-32]. Alternative 5 is then redefined as the Proposed Project [Footnote 25: DEIR Ch. 3 at 3-6:28-29] and the rest of the tunnel concepts are labeled project alternatives. This falls short of satisfying CEQA's requirement that the alternatives considered must offer substantial environmental advantages over the proposed project [Footnote 26: Pub. Resources Code, § 21002; 14 C.C.R. § 15126.6(a)–(b); Goleta Valley, supra, 52 Cal.3d at p. 566]. While CEQA mandates that alternatives to a proposed project mitigate or reduce at least some of the project's environmental impacts, none of the alternatives considered in the DEIR have the potential to reduce any impacts anticipated by the proposed Project. As DWR readily acknowledges, the proposed Project, Alternative 5, is in fact the only tunnel concept that reduces or avoids any impacts associated with the Project identified by the NOP. The DEIR, therefore, offers no alternative with the potential to reduce impacts -- and therefore no alternatives analysis at all that comports with CEQA -- since Alternative 5 is identified as the proposed Project and no longer considered an alternative for the purposes of CEQA.	
539-11	After applying its alternatives filtering system, the DEIR is left with an unreasonably narrow range of alternatives to offer for public review, which consist of slight variations in tunnel alignments and diversion amounts ranging from 3,000 cfs to 7,500 cfs drawn from up to three newly constructed intakes. Regional San [Sacramento Regional County Sanitation District] strongly opposes any alternative that would include an intake at the site of Intake A, which is located within one mile of	The analysis contained in the EIR does not support the comment assertion that the range of alternatives is unreasonably narrow. Please refer to Common Response 3, Alternatives Development and Description, for a discussion about CEQA requirements regarding scope and approach to alternatives screening. Regarding diversion structures near Sacramento Regional Wastewater Treatment Plant's mixing zone, please see response to comment 539-18 regarding reverse flows and information found in Chapter 5, Surface Water, and the figures titled Frequency of Duration of

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	SRWTP's [Sacramento Regional Wastewater District] harmonic mean mixing zone, and would have significant impacts on the plant's operations and Regional San's ability to meet its NPDES [National Pollutant Elimination Discharge System] permit obligations (see Section V [comments 35-50] below for a full discussion of impacts). For example, locating the diversion structures within or near the edge of SRWTP's current mixing zone may result in a decision by the RWQCB [Regional Water Quality Control Board] - which evaluates whether the mixing zone meets the requirements of the State Implementation Plan and the Basin Plan requirements for human health criteria - to disallow continued approval of the mixing zone, thereby requiring Regional San to meet end-of-pipe trihalomethane (THM) effluent limitations. The requirement to meet such effluent limitations, will precipitate a host of additional impacts significantly affecting Regional San and the environment. If the current dilution credit for THMs were eliminated due to concerns regarding the short distance between the edge of the mixing zone and the diversion structures, Regional San could not reliably meet the resulting effluent limitations and would be compelled to cease operation of its EchoWater chlorine disinfection facilities. In lieu of chlorine disinfection, Regional San would be forced to construct an alternative disinfection system such as ultraviolet disinfection to meet the THM effluent limitations and Title 22 equivalent requirements in its NPDES permit, leading to additional significant environmental impacts from constructing that system.	Reverse Flow Events and Frequency of Reverse Flow Distances, as well as the sweeping velocity requirement that would minimize changes in reverse flows. As demonstrated by this information reverse flows would not affect Sacramento Regional Wastewater Treatment Plant mixing zone or facilities.
539-12	The DEIR does not offer a range of alternatives at all, but rather one concept -- tunnel diversion from intakes in the north Delta to pumping facilities in the south Delta -- with slight variations in alignment and capacity. It proposes no alternative intake locations, apart from the three proposed in the north Delta.	Please refer to Common Response 3, Alternatives Development and Description, regarding selection of intake locations, relative to Regional San's facilities and operations. See also the Intake Site Identification and Evaluation technical memorandum (Delta Conveyance Design and Construction Authority 2022a) in the Engineering Project Report regarding

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	The DEIR [Sacramento Regional County Sanitation District] should be revised to consider alternative intake locations that would avoid impacts to Regional San's operations and facilities, and the Harvest Water Program. It appears to Regional San that potentially feasible alternatives exist. A review of information in the Fish Facilities Technical Team (FFTT) report [Footnote 27: See Fish Facilities Technical Team Technical Memorandum (July 2011), attached hereto as "Exhibit A."] developed for the BDCP, which was conducted at the time BDCP was in development, indicates that there are at least two suitable intake locations farther downstream below Steamboat Slough which would reduce the potential for conflicts with and significant impacts to SRWTP [Sacramento Regional Water Treatment Plant] operations and have the benefit of being better for salmon. The Delta Conveyance Design and Construction Authority (DCA) "reviewed and reconsidered the previously considered intake site locations again in 2019 and reexamined the reach of the Sacramento River between Freeport and the confluence with Sutter Slough for other viable intake sites[.]" [Footnote 28: DEIR App. 3A at 3A-4:27-29]. The DEIR asserts that the DCA analyzed five intake locations, but provides no description of this analysis, and directs readers seeking more specifics to a DCA engineering report appendix [Footnote 29: DEIR App. 3A at 3A-4:30-31].	the criteria that were considered for selecting intake locations. Generally, intake locations farther downstream on the Sacramento River were eliminated because of greater salinity conditions and tidal influence in those areas, reduced potential for system operational flexibility, seismic resiliency and climate change resiliency. Relocating intake facilities farther south would merely redirect land use, facility footprint, and species habitat impacts on other Delta areas versus reducing significant impacts of the Delta Conveyance Project.
539-13	The DEIR relies on siting information and criteria that is more than a decade old, and provides no information or analysis to demonstrate the intake siting considerations are still relevant given changing conditions in the Delta. No analysis supports a conclusion that alternative intake locations are not feasible, or that other locations may even be preferable in light of the DEIR's stated objective to improve aquatic conditions in the Delta and reduce regulatory risks.	Please refer to the Delta Conveyance Final Draft Engineering Project Report for the Central and Eastern Options (Delta Conveyance Design and Construction Authority 2022g) for a summary of the intake site selection process. Intake locations were previously intensively analyzed for the BDCP/California WaterFix Project and reevaluated for the analysis of the Delta Conveyance Project. For the Delta Conveyance Project, DWR also

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		assessed alternative intake locations upstream and downstream, and found that these alternate locations did not meet the project objectives and/or did not have the potential to lessen potential significant environmental effects, which were the screening criteria for whether alternatives should move forward for further evaluation in the EIR. Screening criteria for assessing intake site suitability included proximity to existing development (including the town of Hood), number of structures and residences within the permanent footprint, and potential impacts from construction traffic and new roads and road improvements. Please refer to the Intake Site Identification and Evaluation technical memorandum (Delta Conveyance Design and Construction Authority 2022a) for detailed information on site selection criteria.
539-14	Decisions that may have prioritized protection of Delta smelt over other protected species (e.g., salmon) may be less relevant now that smelt trawl surveys regularly find zero Delta smelt [Footnote 30: No Delta smelt were found in the annual September midwater trawl survey in 2021, marking four years in a row with no smelt found in the September survey. California Department of Fish and Wildlife, Monthly Abundance Index for Delta Smelt (Oct. 2021) available at https://www.dfg.ca.gov/delta/data/fmwt/indices.asp]. This has caused some scientists to assert that Delta smelt may disappear from the wild in 2021 or 2022 [Footnote 31: Peter Moyle, et al., "2021: Is This the Year That Wild Delta Smelt Become Extinct?," California Water Blog, press release (Jan. 10, 2021), available at https://californiawaterblog.com/2021/01/10/2021-is-this-the-year-that-wild-deltasmelt-become-extinct/]. Based on these changed conditions, intake locations that are more beneficial for salmon should be prioritized and considered.	The EIR does not support the comment's opinion that protecting delta smelt may no longer be necessary and that protecting salmon is not prioritized. The proposed north Delta diversions provide operational flexibility in combination with south Delta export facilities during times of the year when listed aquatic species are present and most vulnerable and excess water supply is available to divert consistent with current regulatory limitations. For more information on impacts on fish species, please see Chapter 12, Fish and Aquatic Resources. The section titled Fish and Aquatic Species of Management Concern indicates that delta smelt are listed as Threatened under the federal Endangered Species Act (ESA) and Endangered under the California Endangered Species Act (CESA). Appendix 12A, Environmental Setting Background Information, provides information on the current status and assumed Delta conditions for delta smelt and other aquatic species. DWR thoroughly analyzed potential intake locations upstream and downstream and found that these alternate locations did not meet most of the basic project objectives and/or did not have the potential to substantially lessen potential significant environmental effects, which are the screening criteria for whether alternatives should move forward for

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		further evaluation in the EIR. The proposed operational criteria are designed to be protective of multiple sensitive fish species including salmon and the proposed real-time operations approach and Operations Adaptive Management and Monitoring Plan would ensure protection of all listed Delta fish species. Please refer to the Intake Site Identification and Evaluation technical memorandum (Delta Conveyance Design and Construction Authority 2022a) regarding the intake site selection process.
539-15	The DEIR further asserts that it omitted from consideration intake locations in the western Delta due to the potential for higher salinity in western Delta waters. However, the DEIR elsewhere assures readers that the new intakes will divert Delta water only when flows are high. DWR should evaluate whether during high flows, reduced salinities (as compared to low flow conditions) would be present at locations further west in the Delta, as salinity is diluted from freshwater sources coming from the north and east, thus negating the need for intakes at locations further north.	Please see Common Response 3, Alternatives Development and Description, regarding the alternatives developed and analyzed in the EIR, including intake locations.
539-16	At a minimum, the draft EIR alternatives must include a robust analysis of alternative locations for the intakes that avoid some of the Project's impacts potentially significant to Regional San. Given that these potential impacts [comments 11-15] would result from all currently proposed iterations of the tunnel concept, a reasonable range of alternatives, as required by CEQA, would include other suggested intake locations, as well as other alternatives to water supply infrastructure in the Delta, such as a through Delta conveyance, brackish water desalination, increased storage capacity, and increased water recycling and conservation. The DEIR's inclusion of slightly modified versions of one concept does not relieve DWR of the duty to propose and consider a truly diverse range of	Please see responses to comments 539-6 through 539-15 regarding the alternatives selection process and the location of the intakes.

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	alternatives that would reduce the Project's impacts, which must be presented in a revised DEIR so that the public and decision makers can meaningfully and independently review all Project alternatives for their environmental impacts.	
539-17	III. THE PROJECT CANNOT DEMONSTRATE CONSISTENCY WITH APPLICABLE REGIONAL PLANS An EIR must discuss any inconsistencies between the proposed project and applicable local or regional plans. [Footnote 32: 14 C.C.R. section 15125(d).] Regional plans that may apply to a project include air quality attainment or maintenance plans, area-wide waste treatment and water quality plans, regional transportation plans, greenhouse gas reduction plans, habitat conservation plans, natural community conservation plans, and regional land use plans. A project is inconsistent with a plan if a "reasonable person" could not have found the project to be consistent. [Footnote 33: Practice Under the California Environmental Quality Act (CEB 2d ed.), section 12.33.] A. The Project Is Not Consistent with the Delta Plan The Delta Reform Act of 2009 established two coequal goals: (1) securing a reliable water supply for California, and (2) protecting, restoring, and enhancing the Sacramento-San Joaquin Delta ecosystem and the fish, wildlife, and recreation it supports. The Act recognized the Delta as an "evolving" environment and outlined a state policy of reduced reliance on Delta water exports, opting for a strategy of improved conservation, the development and enhancement of regional supplies, and water use efficiency. Adopted in 2013 under the authority of the Act, the Delta Plan set forth 14 regulatory policies and 73 non-regulatory	The EIR fully evaluates and incorporates the types of local or regional plans identified by the commenter, where appropriate. For example, Chapter 23, Air Quality and Greenhouse Gases, incorporates various standards and criteria from the appropriate air pollution control districts (e.g., San Joaquin Valley Air Pollution Control District) throughout the analysis (e.g., Impact AQ-2). It also incorporates various requirements regarding greenhouse gas reductions (e.g., Senate Bill 100) into the impact analysis (e.g., Impact AQ-9). In addition, Chapter 9, Water Quality, incorporates standards from the State Water Resources Control Board (State Water Board) Bay-Delta Water Quality Control Plan (Bay-Delta WQCP) and the Central Valley Regional Water Quality Control Board Basin Plan throughout the impact analyses (e.g., see Impact WQ-5). Finally, Chapter 13, Terrestrial Biological Resources, Impact BIO-54, discusses conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Regarding consistency with county general plans, it should be noted that state agencies, such as DWR, are generally immune from local regulation and land use controls based on the doctrine of sovereignty and therefore are typically not bound by city and county general plans or local ordinances. This same principle would apply to regional land use plans. DWR recognizes and will fully comply with its obligations under the Delta Reform Act. Please see Appendix 3E, Delta Reform Act Considerations, for a discussion of the Delta Reform Act's coequal goals and how the practical effect of many of the proposed mitigation measures in the EIR and environmental commitments in the EIR would protect Delta values.

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	recommendations that contribute to the achievement of the Coequal Goals, including reduced reliance on Delta exports, enhanced water quality standards, protection of the Delta's unique ecosystem, mitigation of the multiple stressors affecting the Delta, improvement of emergency preparedness throughout the Delta region, reduction of flood risk, and prioritization of state investment in levee maintenance and upgrades. The Delta Plan contains policies, recommendations, and performance measures designed to protect the Delta environment and existing Delta land uses from the impacts of major new projects, including the proposed Delta Conveyance Project. The Delta Plan also contains priority recommendations that identify actions "essential to achieving the coequal goals"[Footnote 34: Delta Plan Executive Summary, p. ES-17; the Delta Plan is available at https://deltacouncil.ca.gov/delta-plan/.] and performance measures related to meeting the Plan goals and policies. [Footnote 35: Delta Plan App. E: Performance Measures for the Delta Plan (as amended June 23, 2022).] The Delta Reform Act requires that projects within the boundaries of the Delta that will significantly impact the achievement of the coequal goals demonstrate consistency with the Act and each of the Plan's regulatory polices before the project may be implemented. [Footnote 36: Water Code, sections 85054, 85057.5, 85225; 23 C.C.R section 5002(b)(1).] The DEIR asserts that the "Delta Conveyance Project is consistent with and furthers the achievement of the coequal goals by providing the water supply resilience needed to address seismic risks, sea level rise, and other reasonably foreseeable consequences of climate change and extreme weather events." [Footnote 37: DEIR App. 3E at 3E-5:1-4.] The Project's stated purpose and objectives, however, do not	Please also see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, for information on the relationship of the project to the Delta Reform Act, the Delta Plan, and the coequal goals. Please also see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the project's purpose and objectives, including DWR's continuing commitment to operate the State Water Project as modified to include the Delta Conveyance Project in compliance with all state and federal water quality and environmental laws.

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	commit the Project to improve or even maintain current conditions for the Delta's imperiled fisheries, nor do they ensure that the Project will attempt to protect, restore, and enhance the Delta ecosystem. Instead, the Project's objectives promise to seek "operational flexibility" and to maximize Delta exports in the face of threats from climate change and seismic events. [Footnote 38: DEIR App. 3E at 3E-19:29-33.] The DEIR explains this by stating that "although the Delta Conveyance Project is not required to achieve the coequal goals, it will have a substantial positive impact on achievement of the coequal goals in a manner consistent with state policy." ." [Footnote 39: DEIR App. 3E at 3E-5:4-6.] The DEIR does not explain, however, how the DCP will have a "substantial positive impact on the achievement of the coequal goals." Degrading water quality in the Delta, regardless of the extent of any adverse impacts, does not improve aquatic conditions. Improving water supply reliability for exports out of the Delta, meanwhile -- at the expense of water quality and related conditions in the Delta, including species dependent on the Delta ecosystem -- does not preserve existing conditions in the Delta, let alone protect, restore, or enhance them.	
539-18	1. The Project is not Consistent with the Delta Plan Policy to Respect Local Land Use Delta Plan Policy DP P2, Respect Local Land Use When Siting Water or Flood Facilities or Restoring Habitats, requires that water management facilities respect local land use and be sited to avoid or reduce conflicts with existing uses or those uses described or depicted in city and county general plans.[Footnote 40 2/20/2023 Delta Plan Executive Summary, p. ES-38; 23 C.C.R § 5011.] DWR's decision to locate the DCP	Some of this comment references information submitted on the Bay Delta Conservation Plan/California WaterFix project and does not directly address the Delta Conveyance Project Draft EIR. DWR is not required to respond to comments on projects that are no longer being pursued. However, DWR has reviewed the comment's content to determine whether the comment may be applicable to the proposed Delta Conveyance Project. The following response is provided for those elements of the comment that are applicable to the Delta Conveyance Project Draft EIR.

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	diversion structures directly downstream of the SRWTP [Sacramento Regional Water Treatment Plant] is not consistent with this policy due to the Project's potential to result in increased regulatory requirements and substantial physical modifications to Regional San's [Sacramento Regional County Sanitation District] facilities and operations. Section V.D.'s [comment 47] discussion of reverse flows, below, describes the Project's interference with SRWTP and resulting impacts to Regional San and the physical environment. Regional San presented substantial evidence of the impacts to its operations that would occur from the DCP's predecessor project, California WaterFix, including impacts to water quality and to diversion operations associated with reverse flow events. [Footnote 41: See Comments on July 2018 Draft Supplemental Environmental. Impact Report/Environmental Impact Statement -- California Waterfix (Nov. 5, 2018) submitted on behalf of Regional San, attached hereto as "Exhibit B" [Attachment 2]; information relevant to Regional San's past discussions of this issue is in DWR's possession; DWR should contact Regional San if DWR is unable to locate any of this information.] Many of these same concerns remain after reviewing the DEIR, given the numerous similarities between California WaterFix and the Project. In scoping comments on the Notice of Preparation for the DCP EIR, Regional San expressed its ongoing concern that if the DCP would cause changes in river conditions that would necessitate a diversion greater than would occur in the baseline condition, Regional San would be forced to commit its facilities to correcting conditions created by the Project in order to meet its NPDES [National Pollutant Disposal Elimination Discharge System] permit obligations, thereby reducing Regional San's operational flexibility and creating unknown risks to Regional	Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, provides more information on the self-certification process whereby state and local agencies can demonstrate consistency with relevant Delta Plan policies. DWR recognizes and will fully comply with its obligations under the Delta Reform Act. Appendix 3E, Delta Reform Act Considerations, discusses Delta as place. Reverse flows are addressed in Chapter 5, Surface Water. DWR understands that Sacramento County Water Agency is required to implement a controlled shutdown of Freeport Regional Water Project (FRWP) if effluent being discharged from Sacramento Regional Wastewater Treatment Plant moves 0.9 mile upstream of their outfall. Diversions at FRWP may only restart when the reverse flow event recedes to a point 0.7 mile upstream of the Sacramento Regional Wastewater Treatment Plant outfall. Figures are included in Chapter 5, demonstrating the limited duration and frequency of reverse flows on the Sacramento River, as well as the extent (measured in miles) of reverse flows when they occur. The total number of reverse flow events were analyzed using DSM2, and for each event the total flow and distance was analyzed. As shown in the Chapter 5 figure in the Final EIR titled Frequency of Reverse Flow Distances, there is no increase in frequency of stronger reverse flow events between existing conditions and project alternatives. For example, this figure identifies that there is no change in the frequency and duration of reverse flow events at a distance of 0.8 mile from the Sacramento Regional Wastewater Treatment Plant outfall. Furthermore, as described in Chapter 3, Description of the Proposed Project and Alternatives, operation of the project includes sweeping velocity requirements which limit the diversions to times when velocity at the north Delta intakes is in the downstream direction at 0.4 feet per second. This sweeping velocity requirement would minimize changes in reverse flows. The inclusion of the information in Chapter 5 does not result in a new significant environmental impact or substantially increase the severity of an environmental impact or require

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	San's operations. In the interest of ensuring impacts would be fully analyzed and mitigated to the extent feasible, scoping comments urged DWR to consult with Regional San on the use of appropriate methodology and mitigation to avoid impacts to Regional San's operations where possible. Despite this, DWR did not consult with Regional San, and has not taken into consideration DCP approaches that would allow it to avoid running afoul of Delta Plan Policy DP P2. Despite receiving suggestions proposing different tunnel alignment configurations, the DEIR retains the same problematic intake locations from California WaterFix, with no explanation of why alternative intake locations that would avoid impacts to Regional San and the SRWTP are not evaluated. And as discussed further in Sections V and VI, [see comments 32-47, 48, 49] the DEIR contains no analysis of or evidence supporting conclusions regarding the Project's effect on SRWTP operations, and thus there is no substantial evidence to support a determination that the DCP is consistent with Policy DP P2.	additional mitigation measures to which DWR was unwilling to commit.
539-19	2. The Project is not Consistent with the Delta Plan's Requirement that Covered Actions Use the Best Available Science As part of its mandate that covered actions must make detailed findings to establish consistency with the Delta Plan, Policy G P1 requires that "all covered actions must document use of best available science." [Footnote 42: Delta Plan Executive Summary, p. ES-17.] The DEIR failed to use the best available science in several of its impact analyses, including in its analyses of Project impacts under future climate change conditions, for which only an extreme and unlikely sea level rise was applied, leading to skewed conclusions (see Section V	DWR has used the best available science and tools to prepare the EIR. Please see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, for additional information on how the EIR addresses scientific uncertainty by using best available science, reasonable methodologies, and identifying uncertainty as appropriate. Please see Common Response 6, Climate Resilience and Adaptation, regarding aspects associated with the Delta Conveyance Project's ability to offer adaptation and resilience to climate change and Common Response 9, Hydrologic Modeling and Approach, regarding climate change modeling and assumptions. Please see Common Response 11, Terrestrial Biological Resources and Compensatory Mitigation Plan, for additional information on the methodology and approach used for the terrestrial biological resources impact analyses. The comment cites the

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	below). The Delta Independent Science Board (DISB), in addition to Regional San [Sacramento Regional County Sanitation District] and its consultants, noted the DEIR's use of questionable scientific methods and modalities. Its analyses of impacts to species, for example, using a species-by-species approach rather than examining Project effects on species interactions or ecosystem productivity, is not considered the best available science. Aquatic ecosystem effects on a community scale would provide a more accurate depiction of Project impacts. The DEIR's omission of scientific uncertainty in several of its assessments, furthermore, results in skewed conclusions and underestimated impacts. The DEIR does not demonstrate consistency with the Delta Plan Policy to document the use of best available science.	Delta Independent Science Board with respect to aquatic ecosystem effects; please refer to Volume 2, Chapter 2, Indices of Commenters and Index of Primary Forms, to locate DWR responses to the letter referenced by the comment, which are contained in Volume 2, Chapter 4, Response to Comments Tables.
539-20	As noted above [comment 18], Regional San has worked closely with the Delta Stewardship Council in the development of the Delta Plan, Delta Science Plan, and various products of the Delta Science Program and Delta Independent Science Board, and is very committed to the health of the Delta ecosystem. Through investment of substantial resources, Regional San has worked to help produce a Delta Plan that serves the coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. Project impacts to Regional San's treatment facilities and operations would present a substantial obstacle to Regional San's ongoing efforts to further the Coequal Goals and are inconsistent with specific Delta Plan policies and the Coequal Goals themselves. The Delta Reform Act requires that a new	DWR recognizes and will fully comply with its obligations under the Delta Reform Act. Please refer to Appendix 3E, Delta Reform Act Considerations, and Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding the relationship of the Delta Conveyance Project with local and regional plans, the Delta Reform Act, the Delta Plan, and the coequal goals. DWR will coordinate with the Regional San as the design of the project progresses regarding the District's concerns relating to its treatment facilities and operations. Direct and indirect impacts have been evaluated in the EIR, including impacts related to public services and utilities (Chapter 21, Public Services and Utilities), that are of concern to Regional San, and the EIR proposes mitigation measures as necessary to reduce impacts to a less-than-significant level. Please see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding CEQA requirements for mitigation measure and mitigation measures included in the EIR.

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	Delta conveyance project fully mitigate impacts. Therefore, the DEIR must not only evaluate and disclose these impacts, but it must also identify the measures that commit DWR to fully mitigate them.	
539-21	IV. The DEIR's Use of Unreasonable Baseline, Improper Methodologies, and Thresholds that Mask Project Impacts and Inflates Mitigation Effects An EIR must identify and describe direct and indirect project impacts with a "sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." [Footnote 43: 14 C.C.R. § 15151.] A description of an environmental impact that is insufficient "because it lacks analysis or omits the magnitude of the impact" renders an EIR inadequate as an informational document. [Footnote 44: Sierra Club v. County of Fresno (2018) 6 Cal.5th 502, 514.] The DEIR's analysis of Project impacts does not meet these standards, starting with its evaluation of existing environmental conditions. Use of improper methodology, failure to support conclusions with substantial evidence and analysis, and a tendency to mask or underestimate impacts by applying erroneous thresholds of significance all render the DEIR insufficient and inadequate as an informational document. As a result, Regional San [Sacramento Regional County Sanitation District] is unable to understand the full scope of potential Project impacts to reverse flow events, water quality, groundwater, and utilities, all of which are insufficiently or inaccurately analyzed in the DEIR. Mitigation measures thus do not properly address the extent	The Delta Conveyance EIR has been prepared in compliance with CEQA and evaluates a full range of potential impacts that may result from construction and operation of the proposed project and its alternatives. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, for a discussion regarding baseline existing conditions, the definition of which in the EIR meets CEQA requirements. As described in Common Response 1 and elsewhere in the EIR (e.g., Chapter 4, Framework for the Environmental Analysis), baseline existing conditions includes the current operation of the CVP and SWP as governed by hydrologic conditions, capacity, and regulatory and permitting requirements (e.g., water quality objectives and incidental take permit or biological opinions). Please refer to Common Response 1 regarding use of relevant data, literature and models that guided analysis methodologies and the use of the substantial evidence. The EIR uses substantial evidence throughout the entire EIR to support CEQA determinations. The EIR provides a CEQA impact analysis based on the impact mechanisms and specific study areas for all environmental resources raised by the comment. Within the EIR, each resource chapter provides comprehensive analyses of construction and operations of the project elements including maintenance requirements and discloses resource-specific direct and reasonably foreseeable indirect impacts on each. The EIR uses best available tools, best available science, and tailored thresholds of significance as described in each methodology section of Chapters 7 through 32 and in Common Response 1. For additional information regarding the thresholds and methods used to evaluate water quality and groundwater resources please

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	of potential impacts. Many of these impacts will have an effect on Regional San's operations, facilities, and programs, and as such must be properly evaluated using accurate data and methods and recirculated in a revised DEIR for public comment.	refer to Common Response 10, Surface Water Quality and Groundwater Resources. Please also refer to responses to comments 539-25, 539-92, and 539-93, regarding reverse flow. Chapter 21, Public Services and Utilities, fully evaluates potential impacts on utilities. Please refer to Common Response 1 regarding a discussion of the use and requirements of CEQA related to mitigation measures. As described in Common Response 1, DWR proposes feasible mitigation measures for all potentially significant impacts identified by the impact analyses in Chapters 7 through 32 as summarized by the Executive Summary table titled Summary of Delta Conveyance Project Impacts and Mitigation Measures. Where feasible, these mitigation measures are identified and described as reducing most impacts to less than significant. However, if impacts cannot be reduced to less than significant levels, the EIR explains why and makes a conclusion of significant and unavoidable (e.g., Tribal cultural resources, cultural resources, noise). Finally, please refer to Common Response 1 regarding the CEQA requirements for recirculation, of which the EIR meets none and therefore does not need to be recirculated.
539-22	A. The Use of Unreasonable Future Baseline Conditions Masks Project Impacts The DEIR must describe the environmental setting for the project, which is made up of "the physical environmental conditions in the vicinity of the project" as viewed from "a local and regional perspective."[Footnote 45: 14 C.C.R. Section 15125(a),(a)(1)] Use of the proper baseline is critical to a meaningful assessment of a project's impacts. Though the environmental setting is usually defined as conditions as they exist at the time of the NOP or when environmental analysis begins, an EIR should employ a realistic baseline. When existing	The Delta Conveyance EIR has been prepared in compliance with CEQA and evaluates a full range of potential impacts that may result from construction and operation of the proposed project and its alternatives. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding a discussion of the adequacy of the baseline in the EIR and the definition of the baseline for CEQA purposes. As described in this response, as well as in Common Response 6, Climate Resilience and Adaptation, for informational and disclosure purposes, the EIR does contain numerous chapters and appendices that discuss different climate change assumptions and scenarios, including appendices evaluating 2040 conditions with climate change scenarios. As described in Common Response 6, the results of the

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	conditions change or fluctuate over time, the lead agency may define existing conditions by taking account of historic conditions or conditions expected when the project becomes operational. [Footnote 46: 14 C.C.R. § 15125(a)(1).] Whether intended to reflect existing or future conditions, the baseline must be supported by substantial evidence, which CEQA defines as "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. … Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate ... does not constitute substantial evidence." [Footnote 47: 14 C.C.R. § 15384(a)] Substantial evidence "shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by fact." [Footnote 48: 14 C.C.R. § 15384(b)] The DEIR used as a baseline for water-related impact assessment the typical environmental setting of conditions as they existed at the time of the NOP, January 2020. However, it also included comparisons of conditions as they would be expected to be in 2040 for analysis of the No Project Alternative, as well as analysis of Project impacts in 2040, when the Project is expected to be operational, to reflect conditions after climate change and sea level rise have been accounted for. [Footnote 49: DEIR Ch. 4 at 4-5:28-35; see also DEIR App. 5A, Modeling Technical Appendix] The future conditions evaluated, however, apply only extreme climate change conditions, such as a sea level rise of 1.8 feet by 2040, or 10.2 feet by 2100. Use of these extreme scenarios does not merely serve to give readers a glimpse of possible future conditions; by analyzing potential Project impacts against extreme	many analyses related to climate change contained in the EIR indicate that impact conclusions presented in the individual resource chapters (Chapters 7 through 32) would generally not change when considered under anticipated hydrological changes as a result of changes in temperature, precipitation, and sea level rise under projected climate change. Furthermore, as described in Common Response 6, Appendix 30A, CalSim 3 Results Sensitivity to 2040 Climate Change and Sea Level Rise Projections, the results of the sensitivity analysis show only small differences in the changes in streamflow, reservoir storage, total Delta exports, and salinity for Alternative 5 under the 2040 scenario compared to the No Project Alternative under the 2040 scenario under the different climate change and sea level rise scenarios. This confirms that even if different climate change scenarios are used, the results are still generally similar as those disclosed in other appendices and Chapter 30, Climate Change. Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools, modeled representation of future conditions and climate change, modeled representation of CEQA baseline existing conditions, and climate change assumptions as input into the hydrologic models. The section titled Sea Level Rise in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, explains that an integrated operational analysis of the project was conducted for the year 2040 because that is the timeframe that the Delta Conveyance Project, if approved is expected to become operational. Common Response 9 provides an explanation and an expanded discussion regarding the use of the CT scenario and the associated sensitivity analysis documented in Appendix 30A. Common Response 9 explains that CalSim 3 relies on generalized rules and coarse representation of project operations.

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	conditions considered to represent the outside limit of future climate projections, the severity of Project impacts for reasonably foreseeable climate impacts cannot be determined. A sea level rise of 0.5-0.8 feet by 2040 will have a 66 percent probability, according to the California Ocean Protection Council's Sea Level Rise Guidance. [Footnote 50: State of California Sea-Level Rise Guidance (2018 update), available at https://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf , p 18.] A rise of 1.3 feet by 2040 has a 0.5 percent probability, a 1-in-200 likelihood. The probability of a rise of 1.8 feet by 2040 is so low it is unquantifiable. [Footnote 51: Exponent Technical Comments on the Delta Conveyance Project and Associated Draft Environmental Impact Report (Dec. 16, 2022) prepared for Regional San (Exponent Technical Memorandum), pp. 24-27, attached hereto as Exhibit C] Use of this extremely unlikely future scenario cannot meet the definition of substantial evidence. It is not reasonable to assume that sea level rise will reach these extreme levels, and use of these unlikely conditions minimizes the Project's actual impacts on things like water quality, because Project-induced changes are difficult to discern against this inflated baseline. While the worst-case scenario can be assessed, the DEIR should also evaluate impacts against other, more realistic future scenarios that more accurately reflect Project impacts. Regional San [Sacramento Regional County Sanitation District] encourages the use of baseline conditions that will more accurately reflect potential Project impacts as they change over time, particularly since the Project will not be operational for over a decade. Impact analyses that depend on the Sacramento and San Joaquin River and Delta hydrologic	Common Response 9 explains that CalSim 3 does not reflect extreme events like those that can be expected under real-time operations on specific timescale (i.e., day or week).

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	conditions (including impacts to water quality, water supply, and public facilities that discharge into or divert water from the Sacramento-San Joaquin River Delta) must utilize a baseline that accurately reflects conditions at the time the Project is expected to begin operations, as well as reasonably foreseeable future conditions. Operational impacts to Delta water quality and Regional San's operations will occur immediately upon commencement of Project diversions and near-term impacts may be substantially different from those impacts occurring farther in the future, when background hydrologic conditions will be considerably different due to the effects of climate change.	
539-23	Moreover, NPDES permits should be issued every 5 years. For planning purposes, Regional San [Regional and other NPDES [National Pollutant Discharge Elimination System] permit holders need information relevant to the 5-year permit life. It would be impossible to plan for these if the scenarios evaluated are so extreme that permit holders would need to skip forward 20 years in a shorter period of time for planning purposes. The use of only extreme, highly unlikely, future conditions for the purpose of impact analysis does not allow for evaluation of reasonably foreseeable Project impacts by the public and decision makers.	The Delta Conveyance EIR has been prepared in compliance with CEQA and includes reasonable, future conditions for impact analysis. Please refer to response to comment 539-22 regarding the use of climate change scenarios in the EIR and the representation of climate change scenarios by CalSim 3. Please refer to Chapter 5, Surface Water, regarding a description of operational changes to Sacramento River flow (e.g., lack of reverse flows under operating conditions) and Chapter 9, Water Quality, regarding operational impacts on water quality and a discussion of NPDES requirements to include on-site treatment of runoff, dewatering water, and construction-related commitments. The EIR discusses the use of best management practices and implementation of a stormwater pollution prevention plan to minimize runoff and effects on downstream receiving waters. As described in Chapter 9, impacts on water quality as a result of changes in flow, among other factors, are expected to be less than significant or less than significant with mitigation incorporated (i.e., Impact WQ-6). The Chapter 9 CEQA impact analysis compares the proposed project to existing conditions. Also, Appendix 9L, evaluates the proposed project under 2040 climate change conditions and levels of demand and describes water quality effects under changes with hydrology as affected by climate change and sea level rise. Neither assessment in Chapter 9 or

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		Appendix 9L are considered extreme, highly unlikely, future conditions; rather, they represent current and reasonably foreseeable future conditions.
539-24	B. Methodologies Used to Analyze Project Impacts Are Flawed and Their Use Is Not Supported by Substantial Evidence In evaluating project impacts that will affect Regional San's [Sacramento Regional County Sanitation District] operations and facilities, the EIR must apply methodologies that will provide the most accurate assessment of the project's potential adverse effects. The DEIR employs methodologies that tend to measure impacts in such a way as to make them appear less severe than they are. The project has the potential to have significant adverse effects on Regional San's facilities and operations from project impacts to water quality as measured by things like harmful algal blooms (HABs) (influenced by impacts to residence time, among other factors), electrical conductivity, and mercury levels (see Section V.C. [comments 38-46] below), as well as its impacts to changes to river flows and the frequency of reverse flow events (see Section V.D.[see comment 47]). To accurately assess these impacts, it is imperative that appropriate methodology, assumptions, and analysis be applied, including predictive modeling that uses an appropriate timescale to accurately frame impacts.	The Delta Conveyance EIR has been prepared in compliance with CEQA and is supported by substantial evidence. Chapter 9, Water Quality, analyzes Impact WQ-5 (electrical conductivity), Impact WQ-6 (mercury), Impact WQ-14 (CHABs), and impact assessments for additional water quality parameters are based on substantial evidence, including DSM2 modeling output provided in Chapter 9 appendices, from models calibrated and verified to simulate Delta hydrodynamics and water quality. Chapter 9 determined how project operations would change water quality in the study area, relative to existing conditions, and then determined how identified water quality changes could affect the designated beneficial uses of study area waterbodies (i.e., how water quality changes could cause environmental impacts). Chapter 9 concluded that project operations would have a less than significant impact on water quality constituents in the Delta relative to existing conditions. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding DSM2 model calibration and validation, use of model results, and suitability for use to support water quality impact determinations, and the timescales used in the water quality assessments. Regional San's discharge of Sacramento Regional Wastewater Treatment Plant effluent into the Sacramento River at Freeport is not a designated beneficial use. Consequently, the effects of project operations-related changes to river water quality on Regional San's Sacramento Regional Wastewater Treatment Plant operations was not assessed in Chapter 9.
539-25	Impacts to Regional San's discharge operations are driven by hourly river flow rates at Freeport. Further, the 14:1 threshold at which effluent must be diverted to emergency storage basins (ESBs) is continuously changing since SRWTP [Sacramento Regional Water Treatment Plant] flow rates continuously change – both seasonally and over the course of a	The approach to evaluating the potential for reverse flows is appropriate and adequate. The Chapter 5, Surface Water, section titled Project Alternatives specifically describes the existing condition of reverse flows and the operational changes of project alternatives on reverse flows. The figure titled Frequency of Duration of Reverse Flow Events and the figure titled Frequency of Reverse Flow Distances illustrate the relative changes in

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	day. Therefore, SRWTP diversions to ESBs under Project operations must be simulated on a continuous, hour-by-hour basis using hourly flow rates in the Sacramento River at Freeport and hourly SRWTP operations up to the maximum authorized discharge rate of 181 MGD. The potential for more reverse flow events cannot be adequately analyzed given the DEIR's presentation of information, in which the data, collected through two modeling simulation systems, was presented as long-term monthly averages over the 92-year period. In order to properly evaluate this potential impact, modeling using appropriate methodology (with analysis based on hourly or sub-hourly modeling results rather than long-term averages) must be performed and the issue must be addressed clearly in a revised and recirculated DEIR.	the frequency, and distance under existing conditions, proposed project and alternatives. The EIR concluded that operation of the project would not change the frequency or duration of reverse flows to a degree that would affect operation of the Sacramento Regional Wastewater Treatment Plant. Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools. As described in Common Response 9, the modeling tools available were not developed to perform hourly or sub-hourly modeling. Finally, please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the CEQA requirements for recirculation, of which the EIR meets none and therefore does not need to be recirculated.
539-26	Furthermore, the DEIR's analyses of impacts to flows and water quality do not present relevant information regarding predicted water quality changes. The Delta Simulation Model II (DSM2) simulates flows and water quality within the Delta using a 15-minute time step, which is necessary to capture tidally driven flows and water quality conditions within the Delta estuary. [Footnote 52: Exponent Technical Memorandum, pp. 24-27.] Throughout the DEIR, however, changes to water quality and flows are discussed as long-term averages, aggregated statistically. These long-term average data do not accurately or meaningfully disclose the entirety of the project's effects. Most entities within the Delta who discharge to the Delta, including Regional San [Sacramento Regional County Sanitation District], operate facilities and manage treatment operations on short timeframes (e.g., hourly). Model results that are processed to show changes in terms of long-term averages,	The Delta Conveyance Project EIR has been prepared in compliance with CEQA. Chapter 9, Water Quality, describes the environmental setting and study area for water quality and discloses and analyzes impacts that could result from construction, operation, and maintenance of the project. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the presentation of data and use of monthly average modeling results in the water quality impact analysis. Please also see response to comment 539-24 regarding project effects on Sacramento Regional Wastewater Treatment Plant operations.

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	and then provided in summary statistical format, do not provide the information needed to assess the impacts of the proposed Project on their operations. [Footnote 53: Exponent Technical Memorandum, p. 7.] As Exponent explains, there is a feasible, more relevant methodology and means of evaluating and presenting project-related impacts available that would provide meaningful information to the public and decision makers. In revising the DEIR to include appropriate methodology that accurately reflects project impacts, DWR should consult with Regional San both for input on the appropriate methodology for impact assessment, and to determine whether there are feasible means of avoiding impacts to SRWTP operations.	
539-27	C. The Use of Improper Thresholds of Significance Disguises Significant Impacts as Less Than Significant A threshold of significance is defined by the CEQA Guidelines as "an identifiable quantitative, qualitative or performance level of a particular environmental effect[.]" [Footnote 54: 14 C.C.R.§ 15064.7(a).] A lead agency has discretion to formulate standards of significance for use in an EIR. The choice of appropriate thresholds of significance must be "based to the extent possible on scientific and factual data" and requires an exercise of reasoned judgment founded on substantial evidence. [Footnote 55: 14 C.C.R. § 15064(b)(1); Cleveland Nat'l Forest Found. V. San Diego Ass'n of Gov'ts (2017) 3 Cal.5th 497, 515; Mission Bay Alliance v. Office of Community Investment & Infrastructure (2016) 6 Cal.App.5th 160, 206 (Mission Bay).] Compliance with thresholds of significance does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's	The Delta Conveyance EIR has been prepared in compliance with CEQA and is based on substantial evidence. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9, Water Quality. Please also see responses to comments 539-148 to 539-152 for specific responses related to thresholds of significance used in Chapter 9, Water Quality.

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	environmental effects may still be significant, and when there is evidence that an impact may be characterized as significant, an EIR may not adopt a contrary finding without providing an adequate explanation along with supporting evidence. [Footnote 56: 14 C.C.R. § 15064(b)(2); East Sacramento Partnership for a Livable City v. City of Sacramento (2016) 5 Cal.App.5th 281, 302.] The agency "must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect."[Footnote 57: Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th 1099, 1109.] Using the impact checklist in CEQA Guidelines Appendix G as guidance, DWR formulated its own thresholds of significance for water quality impacts. The DEIR asserts that these thresholds represent "refinements" to the Appendix G language and "reflect the application of professional judgment and experience to the more general language found in the original." [Footnote 58: DEIR Ch. 9 at 9-36:9-13.] However, the thresholds appear, in fact, to be tailored to justify the DEIR's conclusions regarding project impacts. The list of eight thresholds includes the following four, which define an impact as significant if the Project would: (1) Cause exceedance of applicable state or federal numeric or narrative water quality objectives/criteria or other relevant water quality effects thresholds identified for this assessment from the scientific literature by frequency, magnitude, and geographic extent that would result in adverse effects on one or more beneficial uses of affected waterbodies;	

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	(2) Increase levels of a bioaccumulative pollutant by frequency, magnitude, and geographic extent such that the affected waterbody (or portion of a waterbody) would be expected to have measurably higher body burdens of the bioaccumulative pollutant in aquatic organisms that result in substantially increasing the health risks to wildlife (including fish) or humans consuming those organisms; (3) Cause long-term degradation of water quality in affected waterbodies that would result in substantially increased risk for adverse effects on one or more beneficial uses; and (4) Further degrade water quality by measurable levels, on a long-term basis, for one or more parameters, that is already impaired and thus included on the State's CWA Section 303(d) list for the waterbody, such that beneficial use impairment would be made discernibly worse.[Footnote 59: DEIR Ch. 9 at 9-36:15-28.] As pointed out by technical expert Thomas Grovhoug in his comments regarding Project impacts to water quality: [Footnote 60: Grovhoug, T.R., LWA Technical Memorandum (Dec. 15, 2022), Subject: Information prepared for use in Development of Proposed Comments on Delta-Conveyance Project (DCP) Draft EIR (DEIR) – Water Quality Issues (LWA Comments), attached here as Exhibit D [see Attachment 4].] Serious questions exist regarding the validity of these thresholds and their application in the DEIR. For threshold (1), the exceedance of water quality objectives,	

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	under both the federal Clean Water Act and the California Water Code, constitutes an adverse effect on beneficial uses. In both the federal and California construct, water quality standards and objectives are set at levels which are necessary to protect beneficial uses. As such, they represent the threshold for unacceptable adverse impacts on beneficial uses. A subsequent analysis to determine whether adverse effects would occur, as would be indicated by threshold (1), is unnecessary, is inconsistent with federal and state law, and creates an unwarranted burden of proof.	
539-28	C. The Use of Improper Thresholds of Significance Disguises Significant Impacts as Less Than Significant A threshold of significance is defined by the CEQA Guidelines as "an identifiable quantitative, qualitative or performance level of a particular environmental effect[.]" [Footnote 54:14 C.C.R.§ 15064.7(a).] A lead agency has discretion to formulate standards of significance for use in an EIR. The choice of appropriate thresholds of significance must be "based to the extent possible on scientific and factual data" and requires an exercise of reasoned judgment founded on substantial evidence. [Footnote 55: 14 C.C.R. § 15064(b)(1); Cleveland Nat'l Forest Found. V. San Diego Ass'n of Gov'ts (2017) 3 Cal.5th 497, 515; Mission Bay Alliance v. Office of Community Investment & Infrastructure (2016) 6 Cal.App.5th 160, 206 (Mission Bay).] Compliance with thresholds of significance does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant, and when there is evidence that an impact may be characterized as significant, an EIR may not adopt a contrary finding without providing an adequate explanation along with supporting evidence.	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9, Water Quality. Chapter 9 appropriately makes findings for impacts where the alternatives may cause a constituent to potentially bioaccumulate in aquatic organisms to levels measurably greater than that under existing conditions, thus increasing the health risk to wildlife or humans consuming those organisms, consistent with the comment. Specifically, Impact WQ-6 found that impacts from the Compensatory Mitigation Plan (CMP) tidal habitats could have a potentially significant impact on mercury due to the potential for bioaccumulation and increased health risks and the impact conclusion was potentially significant, and less than significant with mitigation. Please also see responses to comments 539-148 to 539-152 for specific responses related to thresholds of significance used in Chapter 9.

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	[Footnote 56: 14 C.C.R. § 15064(b)(2); East Sacramento Partnership for a Livable City v. City of Sacramento (2016) 5 Cal.App.5th 281, 302.] The agency "must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect."[Footnote 57: Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th 1099, 1109.] Using the impact checklist in CEQA Guidelines Appendix G as guidance, DWR formulated its own thresholds of significance for water quality impacts. The DEIR asserts that these thresholds represent "refinements" to the Appendix G language and "reflect the application of professional judgment and experience to the more general language found in the original." [Footnote 58: DEIR Ch. 9 at 9-36:9-13.] However, the thresholds appear, in fact, to be tailored to justify the DEIR's conclusions regarding Project impacts. The list of eight thresholds includes the following four, which define an impact as significant if the Project would: (1) Cause exceedance of applicable state or federal numeric or narrative water quality objectives/criteria or other relevant water quality effects thresholds identified for this assessment from the scientific literature by frequency, magnitude, and geographic extent that would result in adverse effects on one or more beneficial uses of affected waterbodies; (2) Increase levels of a bioaccumulative pollutant by frequency, magnitude, and geographic extent such that the affected waterbody (or portion of a waterbody) would be expected to	

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	have measurably higher body burdens of the bioaccumulative pollutant in aquatic organisms that result in substantially increasing the health risks to wildlife (including fish) or humans consuming those organisms; (3) Cause long-term degradation of water quality in affected waterbodies that would result in substantially increased risk for adverse effects on one or more beneficial uses; and (4) Further degrade water quality by measurable levels, on a long-term basis, for one or more parameters, that is already impaired and thus included on the State's CWA Section 303(d) list for the waterbody, such that beneficial use impairment would be made discernibly worse. [Footnote 59: DEIR Ch. 9 at 9-36:15-28.] As pointed out by technical expert Thomas Grovhoug in his comments regarding Project impacts to water quality: [Footnote 60: Grovhoug, T.R., LWA Technical Memorandum (Dec. 15, 2022), Subject: Information prepared for use in Development of Proposed Comments on Delta-Conveyance Project (DCP) Draft EIR (DEIR) – Water Quality Issues (LWA Comments), attached here as Exhibit D [see Attachment 4].] Serious questions exist regarding the validity of these thresholds and their application in the DEIR. For threshold (2), measurable increases in body burdens of bioaccumulative pollutants that already exceed adopted fish tissue objectives would, by definition, make an existing impaired condition worse and would substantially increase health risks. An additional analysis of health risks is necessary and is again inconsistent with federal and state law and the basic construct	

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	behind enforceable water quality objectives, as noted above.	
539-29	C. The Use of Improper Thresholds of Significance Disguises Significant Impacts as Less Than Significant A threshold of significance is defined by the CEQA Guidelines as "an identifiable quantitative, qualitative or performance level of a particular environmental effect[.]" [Footnote 54:14 C.C.R.§ 15064.7(a).] A lead agency has discretion to formulate standards of significance for use in an EIR. The choice of appropriate thresholds of significance must be "based to the extent possible on scientific and factual data" and requires an exercise of reasoned judgment founded on substantial evidence. [Footnote 55: 14 C.C.R. § 15064(b)(1); Cleveland Nat'l Forest Found. V. San Diego Ass'n of Gov'ts (2017) 3 Cal.5th 497, 515; Mission Bay Alliance v. Office of Community Investment & Infrastructure (2016) 6 Cal.App.5th 160, 206 (Mission Bay).] Compliance with thresholds of significance does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant, and when there is evidence that an impact may be characterized as significant, an EIR may not adopt a contrary finding without providing an adequate explanation along with supporting evidence. [Footnote 56: 14 C.C.R. § 15064(b)(2); East Sacramento Partnership for a Livable City v. City of Sacramento (2016) 5 Cal.App.5th 281, 302.] The agency "must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect."[Footnote 57: Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th 1099, 1109.]	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9, Water Quality, and Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding a discussion of the State's Antidegradation Policy. Please also see responses to comments 539-148 to 539-152 for specific responses related to thresholds of significance used in Chapter 9.

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	Using the impact checklist in CEQA Guidelines Appendix G as guidance, DWR formulated its own thresholds of significance for water quality impacts. The DEIR asserts that these thresholds represent "refinements" to the Appendix G language and "reflect the application of professional judgment and experience to the more general language found in the original." [Footnote 58: DEIR Ch. 9 at 9-36:9-13.] However, the thresholds appear, in fact, to be tailored to justify the DEIR's conclusions regarding Project impacts. The list of eight thresholds includes the following four, which define an impact as significant if the Project would: (1) Cause exceedance of applicable state or federal numeric or narrative water quality objectives/criteria or other relevant water quality effects thresholds identified for this assessment from the scientific literature by frequency, magnitude, and geographic extent that would result in adverse effects on one or more beneficial uses of affected waterbodies; (2) Increase levels of a bioaccumulative pollutant by frequency, magnitude, and geographic extent such that the affected waterbody (or portion of a waterbody) would be expected to have measurably higher body burdens of the bioaccumulative pollutant in aquatic organisms that result in substantially increasing the health risks to wildlife (including fish) or humans consuming those organisms; (3) Cause long-term degradation of water quality in affected waterbodies that would result in substantially increased risk for adverse effects on one or more beneficial uses; and	

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	(4) Further degrade water quality by measurable levels, on a long-term basis, for one or more parameters, that is already impaired and thus included on the State's CWA Section 303(d) list for the waterbody, such that beneficial use impairment would be made discernibly worse. [Footnote 59: DEIR Ch. 9 at 9-36:15-28.] As pointed out by technical expert Thomas Grovhoug in his comments regarding Project impacts to water quality: [Footnote 60: Grovhoug, T.R., LWA Technical Memorandum (Dec. 15, 2022), Subject: Information prepared for use in Development of Proposed Comments on Delta-Conveyance Project (DCP) Draft EIR (DEIR) – Water Quality Issues (LWA Comments), attached here as Exhibit D [see Attachment 4].] Serious questions exist regarding the validity of these thresholds and their application in the DEIR. For threshold (3), the determination of what is a "substantially increased risk for adverse effects on beneficial uses" is vague and open to interpretation. For this threshold, the EIR fails to connect it to either the federal or state antidegradation policies, which directly address water quality degradation and are fundamental to the water quality protection offered by the Clean Water Act and California Water Code.	
539-30	C. The Use of Improper Thresholds of Significance Disguises Significant Impacts as Less Than Significant A threshold of significance is defined by the CEQA Guidelines as "an identifiable quantitative, qualitative or performance level of a particular environmental effect[.]" [Footnote 54:14 C.C.R.§ 15064.7(a).] A lead agency has discretion to formulate standards of significance for use in an EIR. The choice of	DWR's water quality impact analyses produced substantial evidence pertaining to how water quality would change in various waterbodies under the proposed project and project alternatives relative to existing conditions. DWR appropriately developed and included in the EIR project-specific thresholds of significance. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9, Water Quality, as well as the relationship between the State's

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	appropriate thresholds of significance must be "based to the extent possible on scientific and factual data" and requires an exercise of reasoned judgment founded on substantial evidence. [Footnote 55: 14 C.C.R. § 15064(b)(1); Cleveland Nat'l Forest Found. V. San Diego Ass'n of Gov'ts (2017) 3 Cal.5th 497, 515; Mission Bay Alliance v. Office of Community Investment & Infrastructure (2016) 6 Cal.App.5th 160, 206 (Mission Bay).] Compliance with thresholds of significance does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant, and when there is evidence that an impact may be characterized as significant, an EIR may not adopt a contrary finding without providing an adequate explanation along with supporting evidence. [Footnote 56: 14 C.C.R. § 15064(b)(2); East Sacramento Partnership for a Livable City v. City of Sacramento (2016) 5 Cal.App.5th 281, 302.] The agency "must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect."[Footnote 57: Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th 1099, 1109.] Using the impact checklist in CEQA Guidelines Appendix G as guidance, DWR formulated its own thresholds of significance for water quality impacts. The DEIR asserts that these thresholds represent "refinements" to the Appendix G language and "reflect the application of professional judgment and experience to the more general language found in the original." [Footnote 58: DEIR Ch. 9 at 9-36:9-13.] However, the thresholds appear, in fact, to be tailored to justify the DEIR's	Antidegradation Policy and the EIR. Please also see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding a discussion of the State Water Board's Antidegradation Policy. Please also see responses to comments 539-148 to 539-152 for specific responses related to thresholds of significance used in Chapter 9.

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	conclusions regarding Project impacts. The list of eight thresholds includes the following four, which define an impact as significant if the Project would: (1) Cause exceedance of applicable state or federal numeric or narrative water quality objectives/criteria or other relevant water quality effects thresholds identified for this assessment from the scientific literature by frequency, magnitude, and geographic extent that would result in adverse effects on one or more beneficial uses of affected waterbodies; (2) Increase levels of a bioaccumulative pollutant by frequency, magnitude, and geographic extent such that the affected waterbody (or portion of a waterbody) would be expected to have measurably higher body burdens of the bioaccumulative pollutant in aquatic organisms that result in substantially increasing the health risks to wildlife (including fish) or humans consuming those organisms; (3) Cause long-term degradation of water quality in affected waterbodies that would result in substantially increased risk for adverse effects on one or more beneficial uses; and (4) Further degrade water quality by measurable levels, on a long-term basis, for one or more parameters, that is already impaired and thus included on the State's CWA Section 303(d) list for the waterbody, such that beneficial use impairment would be made discernibly worse. [Footnote 59: DEIR Ch. 9 at 9-36:15-28.] As pointed out by technical expert Thomas Grovhoug in his comments regarding Project impacts to water quality:	

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	[Footnote 60: Grovhoug, T.R., LWA Technical Memorandum (Dec. 15, 2022), Subject: Information prepared for use in Development of Proposed Comments on Delta-Conveyance Project (DCP) Draft EIR (DEIR) – Water Quality Issues (LWA Comments), attached here as Exhibit D [see Attachment 4].] Serious questions exist regarding the validity of these thresholds and their application in the DEIR. For threshold (4), the stated qualifier that "beneficial use impairment would be made discernibly worse" is legally flawed. For 303(d)-listed parameters, water quality conditions have already been determined to be impaired and in violation of adopted water quality objectives. The federal antidegradation policy (40CFR 131.12(a)) requires that existing beneficial uses be protected as an absolute floor for water quality protection in the waters of the United States. Any measurable degradation above and beyond the existing impaired condition (i.e. exacerbated violation of water quality objectives) is inconsistent with the federal antidegradation policy and, by definition, an unacceptable and significant impact on beneficial uses. [Footnote 61: LWA Comments, p. 1.]	
539-31	Guidance provided in the U.S. EPA Water Quality Standards Handbook, Mr. Grovhoug notes, states that "if a planned activity will foreseeably lower water quality to the extent that it no longer is sufficient to protect and maintain the existing uses in that water body, such an activity is inconsistent with USEPA's antidegradation policy..." and "[i]n such a circumstance, the planned activity must be avoided or adequate mitigation or preventive measure must be taken to ensure that the existing uses and the water quality to protect them will be maintained." [Footnote 62: LWA Comments, p. 2; U.S. EPA Water Quality Standards Handbook, Ch. 4, pp. 4 & 5,	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9, Water Quality, and Common Response 8, Relationship to Other Plans, Project, Policies, and Programs, regarding the relationship between the State's Antidegradation Policy and the EIR. DWR's thresholds of significance for this project specifically assess impacts on designated beneficial uses of waterbodies. Chapter 9 found that the water quality degradation caused by operations of the project alternatives would result in less- than-significant impacts on waterbody beneficial uses.

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	located at https://www.epa.gov/sites/default/files/2014-10/documents/handbook-chapter4.pdf.] While DWR has discretion to adopt thresholds of significance for the project, it must support its decision to use one threshold over another with substantial evidence. And while the DEIR's "refinements" to Appendix G's checklist are supposedly intended to add specificity and "professional judgment" to the checklist's general language, no substantial evidence is provided in support of its chosen thresholds. The DEIR offers no indication, for example, why Appendix G's suggestion that impacts would be significant if they would "violate any water quality standards or waste discharge requirements" or otherwise substantially degrade surface or groundwater quality [Footnote 63: CEQA Guidelines App. G, pdf p. 9 (emphasis added), located at https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/ab52/final-approved-appendix-G.pdf.] was changed to instead find significant only those impacts that violate "waste discharge requirements issued to the project for construction-related activities." [Footnote 64: DEIR Ch. 9 at 9-36:38.] In light of the EPA's directive, it would seem the DEIR's chosen thresholds cannot be supported by substantial evidence. The DEIR must be revised to provide substantial evidence for thresholds of significance applied in its impacts analyses, or in the absence of such evidence, further refine its thresholds to reflect true project impacts and consistency with federal and state water quality laws, regulations and antidegradation limitations.	

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539-32	V. THE DEIR DOES NOT IDENTIFY, ANALYZE, AND MITIGATE POTENTIALLY SIGNIFICANT PROJECT IMPACTS A. The DEIR Does Not Identify, Analyze, or Mitigate Significant Impacts to the Harvest Water Program or Groundwater Two important aquifer zones exist in the region of the Delta affected by the Project --- the shallow aquifer zone and the typical production zone. Separated by discontinuous clays, the two zones are distinct enough that impact analyses and mitigation measures should be developed separately. The shallow aquifer zone, which lies typically within 30 to 70 feet of the surface of the ground, is especially important because it supports riparian habitat and the species that inhabit groundwater-dependent ecosystems (GDEs). Though the DEIR acknowledges both zones, it does not differentiate between the two for purposes of impact analysis or mitigation, nor does it discuss monitoring of the shallow zone and its unique ecosystem for ongoing impacts. Of particular importance to Regional San [Sacramento Regional County Sanitation District] are potential impacts to the shallow aquifer and groundwater dependent ecosystems, both for their own sake and because of the impact the Project may have on the groundwater and habitat benefits of Regional San's Harvest Water Program. Harvest Water is designed to protect working farms and habitat lands and support sustainable groundwater management. The Program will provide multiple benefits, including providing a safe and reliable supply of tertiary-treated water for agricultural operations, reducing groundwater pumping, supporting habitat protection efforts, and providing near-term benefits to the Sacramento- San	Please see response to comment 539-33 regarding the impact analysis of direct and indirect impacts on habitat for special-status species as a result of construction and operation of the project. As described in this response, the EIR discloses potentially significant impacts and mitigation measures, as appropriate, to reduce impacts to less than significant on habitat for special-status species. As discussed in Common Response 10, Surface Water Quality and Groundwater Resources, and Chapter 8, Groundwater (in the section titled Methods for Analysis), the Delta Conveyance Project construction-related impacts are evaluated using existing groundwater conditions and hydrogeology, standard design and construction methods (Delta Conveyance Design and Construction Authority 2022g, 2022h), and anticipated changes in groundwater elevations, storage, and quality during construction. As described in Common Response 10, cutoff walls would be designed to applicable standards depending on the unique site-specific conditions and the location of the facility being constructed. Cutoff walls are designed and used to minimize need for dewatering and the movement of groundwater outside of the cutoff walls. Given this and the other information provided in Common Response 10, construction would not result in substantial changes to groundwater levels or groundwater water quality. Furthermore, the analysis in Impact GW-1 and Impact GW-2 shows that under construction, groundwater levels would generally be maintained at the level of existing conditions during the use of cutoff walls or dewatering. As the proposed project and project alternatives would not result in a substantial change in groundwater levels, they would also not result in a substantial change in groundwater salinity associated with a decline in groundwater levels. And if unanticipated changes to groundwater levels occurred during construction, the changes would be localized and in the immediate area of the construction. The EIR also includes Mitigation Measure GW-1, which requires monitoring during construction and adjustments to construction activities as needed,

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	Joaquin Delta. Once completed, Harvest Water will provide up to 50,000 acre-feet per year of tertiary-treated recycled water produced at the SRWTP [Sacramento Regional Water Treatment Plant] for agricultural irrigation, that will provide in-lieu groundwater recharge and habitat restoration, while also improving stream flow and enhancing groundwater-dependent riparian habitats. In-lieu groundwater recharge refers to the use of recycled water by irrigators to offset a significant portion of local groundwater use. This in-lieu recharge is expected to raise groundwater levels up to 35 feet in the center of the Harvest Water Program area, and 20 to 30 feet in other parts of the groundwater basin, helping to reverse a cone of depression that currently exists due to over-pumping of groundwater. Water produced by Regional San will be used to irrigate up to 16,000 acres (within a delivery area of approximately 22,000 acres) of agricultural and habitat lands in Sacramento County near the lower Cosumnes River and adjacent to the Stone Lakes National Wildlife Refuge. To achieve the program's goals of maintaining economically viable agricultural production while protecting and enhancing critical riparian and wetland habitat, Harvest Water developed an application under WSIP and was selected by the California Water Commission to receive funding under Proposition 1. Harvest Water will support wildlife-friendly agricultural management activities for a variety of state and federally listed species and their associated habitats, through use of recycled water for both irrigation (in lieu of groundwater) and wintertime water application specifically for Sandhill Crane foraging and roosting habitat. Landowners will receive assistance for providing habitat for wildlife while preserving working farmland and	depending on the groundwater level monitoring results and site specific conditions. Although it is determined that the project would not impact groundwater quality, Mitigation Measure GW-1 has been revised to include monitoring of electrical conductivity at select locations during construction to provide data confirming the conclusions in the EIR. Impact GW-1 and Impact GW-2 remain less than significant prior to the implementation of the revised mitigation measure, as described in Chapter 8. The revision does not result in a new significant environmental impact, substantial increase in the severity of an environmental impact, or require additional mitigation measures to which DWR was unwilling to commit. Please refer to Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, for a discussion of the Sustainable Groundwater Management Act and the Delta Conveyance Project. Please also see Common Response 8 regarding a description and discussion of groundwater-dependent ecosystems (GDEs). GDEs are not discussed in Chapter 8 because substantial changes in interconnected surface waters and groundwater elevation would not occur. The EIR addresses temporary and permanent impacts on GDEs as a result of other potential impact mechanisms by identifying and evaluating potential impacts on all natural systems and habitat supported by groundwater that could be impacted by the project in Chapter 13, Terrestrial Biological Resources. For example, GDEs including tidal and nontidal perennial aquatic, tidal and nontidal freshwater emergent wetland, tidal brackish emergent marsh, valley/foothill riparian, alkaline seasonal wetland and vernal pool complex are evaluated in Impact BIO-1 through Impact BIO-8 in Chapter 13. Thresholds of significance for these and other sensitive resources are listed in the section titled Thresholds of Significance. Mitigation and Avoidance and Minimization Measures are provided in Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources, which describes the mitigation that would be implemented to offset impacts on these land cover types. Attachment 3F.1, Compensatory Mitigation Design

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	rangeland. In addition to improving groundwater elevations across the southern Sacramento County region through in-lieu recharge, the program will help improve stream flows in the lower Cosumnes River by raising the groundwater table along the river corridor, and will help significantly improve Fall-Run Chinook migration, and sustain riparian trees and shrubs (GDEs) through access to shallow groundwater, particularly during dry periods. The Water Commission recognized the important benefits that Harvest Water will provide and awarded Regional San $291.8 million in grant funding under WSIP [Water Storage Incentive Program]. The Harvest Water Program includes a new pump station and recycled water transmission and distribution pipelines to deliver water from Regional San's treatment facility near Elk Grove to irrigation systems in the Program area in southern Sacramento County. The DEIR's analysis of impacts to groundwater does not discuss or mitigate impacts specifically affecting Regional San and the Harvest Water program. The DEIR provides only general and vague discussion of groundwater impacts, and impact assessments lack the level of specificity required to evaluate the Project's true impacts. For example, effects to groundwater would be significant, the DEIR asserts, if Project implementation would result in any of seven impacts described in the DEIR and based on CEQA Guidelines Appendix G: • Changes in stream gains or losses in various interconnected stream reaches • Changes in groundwater elevations • Reduction in groundwater levels affecting supply wells • Changes to long-term change in groundwater storage • Increases in groundwater elevations near Project intake	Parameters, provides the design commitments and guidelines for compensatory mitigation of impacts. Avoidance and minimization measures that would apply during construction of the project (including but not limited to construction of the compensatory mitigation sites themselves) are contained in Appendix 3B, Environmental Commitments and Best Management Practices.

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	facilities • Damage to major conveyance facilities resulting from land subsidence • Degradation of groundwater quality [Footnote 65: DEIR Ch. 8, pp. 8-19–8-20.] The analysis does not consider – and thus does not mitigate – impacts specific to shallow groundwater zones and related impacts to groundwater-dependent ecosystems or Project-related impacts to Harvest Water's other ecological benefits. A threshold of significance specifically addressing impacts to shallow groundwater zones and GDEs should be added to assess the true extent of Project impacts. Furthermore, the DEIR fails to identify as an impact direct and indirect effects to proposed habitat improvement locations through new Project infrastructure and waste site locations. Additionally, Mitigation Measure GW-1: Maintain Groundwater Supplies in Affected Areas, which proposes the installation of monitoring wells within 0.5 mile of Project sites at which dewatering could occur during construction or maintenance, [Footnote 66: DEIR Ch. 8 at 8-34:2-8.] should be expanded to include monitoring and mitigation of the shallow aquifer system with depths within the upper 30 feet of the ground surface that supports GDEs.	
539-33	Furthermore, the DEIR does not consider the Project's impacts on Harvest Water ecological objectives and operations. DCP activities, such as construction of northern concrete batch plants, any additional aboveground supervisory control and data acquisition (SCADA) and other utilities, as well as deposit piles of reusable tunnel material (RTM), will have a direct impact on lands that are prioritized for the implementation of Harvest Water by removing approximately 823 acres from the program's 3,500 benefit acres, which are intended to support	Regarding the assertion that Delta Conveyance Project activities would directly impact lands prioritized for the implementation of the Harvest Water Program, the Twin Cities Complex, including the associated reusable tunnel material (RTM) footprint, and the northern concrete batch plants along Lambert Road are not located on properties that are identified as initially receiving Harvest Water, and there are currently no service collection laterals identified in the project map in the most recent CEQA document for Harvest Water to those locations (Ascent Inc. 2020).

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	white-tailed kites, Swainson's hawks, lesser and greater Sandhill cranes, tri-colored blackbirds, and more.[Footnote 67: See Map of Harvest Water Program Area below.] Four acres of existing wetlands also would be lost which are intended to be a part of the Harvest Water Program. Additional impacts from construction, including noise and vibration, and ongoing operations and maintenance also will likely affect a much larger area than the physical footprint of the facility described in the DEIR. For illustration, the winter crane habitat that the Harvest Water Program provides relies on the footprint proposed for the RTM for foraging and roosting. Cranes will not forage or roost where a site is disturbed by the placement and movement of RTM, or where disturbed by trucking, noise and lighting at a batch plant. The stabilization of the site following construction and whether it will be redisturbed to remove or relocate those RTM materials during the operations and management of those sites following construction are not fully described in the DEIR and could lead to additional impacts to Harvest Water's implementation of its ecological program. These impacts must be specifically evaluated in a revised DEIR and robust mitigation --- or alternatives --- must be adopted to avoid or substantially lessen any significant impacts.	Regarding the analysis of impacts on special-status species, permanent and temporary impacts from project alternatives on habitat for special-status species including white-tailed kite, Swainson's hawk, lesser and greater sandhill cranes, and tricolored blackbird are quantified and analyzed in Chapter 13, Terrestrial Biological Resources (Impacts BIO-33, BIO-36, BIO-39, and BIO-44). The lands described by the comment are included in the impact analysis. Regarding the description of placement and movement of RTM in the Draft EIR, RTM and other excavated materials will be tested and hazardous materials treated and disposed of properly. Remaining suitable materials will be reused by the project to the extent possible. Please refer to the Engineering Project Report Reusable Tunnel Material technical memorandum (Delta Conveyance Design and Construction Authority 2022d), specifically Section 10.4, Other Uses, regarding making surplus fill available to local agencies for other uses. DWR is committed to coordinating with local agencies, including reclamation districts, and would collaborate on a case-by-case basis for transfer of materials to other entities. However, because of the uncertainty about possible future use of RTM for other projects, the EIR analyses are based on the assumption that RTM will be stored at RTM storage sites. In addition, the analysis in Chapter 13 includes potential impacts of noise, vibration, lighting, operations, and maintenance and considers these potential impact mechanisms beyond the physical construction footprint of project alternatives. The implementation of the environmental commitments described in Appendix 3B, Environmental Commitments and Best Management Practices, and the mitigation measures included in Chapter 13 would avoid and minimize impacts on special-status terrestrial species. For example, Mitigation Measure BIO-33 includes seasonal restrictions, preconstruction surveys and monitoring, and compensation for sandhill crane habitat temporarily affected by construction noise.

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		Mitigation for species habitat impacts, which includes performance standards and mitigation land protection assurances, are described in Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources. These analyses and proposed mitigation measures meet the requirements of CEQA. However, DWR will continue to coordinate with Regional San regarding Harvest Water conveyance pipelines through other regulatory processes, as described in Chapter 21, Public Services and Utilities. Please also see response to comment 539-12 regarding the Delta Conveyance Project facility locations to support construction and operation.
539-34	The DEIR, in its discussion of impact GW-2: Changes in Groundwater Elevations, states that "[s]urface water diverted from the project's north Delta intakes would result in a reduction in surface water flows, which, in turn, may reduce recharge to the underlying groundwater basins resulting in changes to groundwater elevations." [Footnote 68: DEIR Ch. 8 at 8-37:35-37.] It further states that "the physical presence of the project facilities may act as no-flow barriers to subsurface groundwater flow and could result in changes to groundwater flow direction and/or the reflection of pumping depressions, resulting in increases or decreases in groundwater elevation." [Footnote 69: DEIR Ch. 8 at 8-37:37-40.] However, the DEIR does not explain how these impacts might affect Harvest Water activities (across the entire 22,000-acre Project area and surrounding groundwater table benefit area) and ongoing ecosystem enhancement operations. The natural flow of groundwater from Harvest Water in-lieu recharge area (east of the tunnel route) to the surrounding area (including areas west of the tunnel route) is a key component for Harvest Water	Groundwater-dependent ecosystems (GDEs) are discussed in more detail in Common Response 8, Relationship to Other Plans, Policies, and Programs, and Chapter 13, Terrestrial Biological Resources. Localized short-term impacts on interconnected surface water and GDEs at or near intakes and other dewatering sites are not expected to occur, as impacts of dewatering were found to be less than significant. Please see response to comment 539-32 regarding the impact approach and methodology and the use of standard construction methods and practices such as cutoff walls, as well as the inclusion of Mitigation Measure GW-1. As described in Common Response 8, the use of cutoff walls will limit construction related changes to groundwater elevations. Project impact on interconnected surface water was analyzed in Chapter 8, Groundwater, under Impact GW-1. Project operations are not expected to influence flows in or groundwater elevations near the Cosumnes River. Given the above, groundwater elevations are not expected to substantially change during construction or operation and would not have the potential to affect activities on the 22,000 acres of the Harvest Water Project Area.

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	reaching a broader area for increased groundwater levels and associated ecosystem benefits. Analysis is necessary to determine to what extent the tunnel will be projected to negatively impact this flow of water and reduce the benefits of the Harvest Water program. The DEIR, which does not provide mitigation specifically for shallow groundwater impacts, should provide the necessary analysis and should expand mitigation and monitoring efforts aimed at avoiding potential decreases in shallow groundwater elevations that could have impacts on Regional San's Harvest Water Program, and should additionally include in its analysis of stream gains and losses impacts to the Cosumnes River as a sensitive reach in close proximity to the proposed Project. The Cosumnes River flow benefits from Harvest Water's elevated groundwater levels are projected to increase over the life of the Harvest Water Program, with near-term benefits on the order of approximately 13,000 acre-feet per year, providing for Fall-run chinook salmon-related ecosystem benefits recognized under WSIP [Water Storage Incentive Program].	
539-35	Mitigation Measure GW-1, moreover, is insufficient to feasibly offer any reductions in Project impacts to groundwater. Its provisions are vague and unenforceable and lack the performance standards strictly required by CEQA when an agency defers formulation of specific mitigation details until after a project is approved. When mitigation specifics are deferred because it is infeasible to develop them during environmental review, CEQA demands that an agency adopt specific performance standards that the agency commits to achieving through the deferred mitigation, as well as identification of steps that can be reasonably expected to achieve the performance standards. MM GW-1 meets none of these criteria. Its "weekly or monthly" monitoring at	The Delta Conveyance EIR has been prepared in compliance with CEQA and includes feasible, implementable, measurable, and enforceable mitigation measures. Please see response to comment 539-32 regarding the impact approach and methodology and the use of standard construction methods and practices such as cutoff walls, as well as the inclusion of Mitigation Measure GW-1. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding CEQA requirements related to mitigation measures and the inclusion of feasible and appropriate mitigation measures within the EIR. Mitigation Measure GW-1 has been revised in the Final EIR to clarify that monitoring wells will be selected or installed based on location, type, and depth to ensure monitoring is appropriate for the area. The revisions to Mitigation Measure GW-1 do not result in a new significant environmental

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	monitoring wells installed within 0.5 mile of Project sites at which dewatering could occur during construction or maintenance, provides no guidance on what monitoring frequency will be used at which locations, nor does it specify who will conduct the monitoring and reporting activities. Monthly monitoring is inadequate to properly characterize impacts to groundwater and to distinguish those impacts from non-Project factors. Support for the selection of a 0.5-mile radius, furthermore, is not provided. Performance standards are vague and confusing and steps to achieve them lack any detail required to evaluate their effectiveness. Regional San's [Sacramento Regional County Sanitation District] technical experts, who assisted in developing Harvest Water, suggest that monitoring frequency, which could be reassessed after collection of two years' data, should be weekly, with continuous measurements via pressure transducers. In the absence of information specifying what this mitigation measure is meant to achieve or who will implement it, the public is unable to assess whether it is effective, or indeed whether it will be carried out at all.	impact, substantial increase in the severity of an environmental impact, or require additional mitigation measures to which DWR was unwilling to commit. Mitigation Measure GW-1 meets the CEQA requirement for mitigation because it first describes the outcome expected to be avoided by groundwater monitoring (i.e., if the results of groundwater monitoring described above indicate that the difference between average groundwater elevation declines in monitoring wells inside the area of influence of dewatering and control [background] monitoring well outside the area of influence is more than 10% of the depth of the shallowest known well inside the area, which approximates the natural variability that can occur across an area) and then it describes the type of actions that would be required if that outcome to be avoided occurs (i.e., reinjecting groundwater; deepening or modifying wells; securing temporary water supply). The monitoring frequency described in the mitigation measure was selected based on common groundwater level monitoring frequencies and to be sufficient to detect appreciable changes in groundwater levels in a manner that is timely enough to implement the mitigation measures.
539-36	B. The DEIR Does Not Identify Efforts to Avoid Impacts to and Disruption of Harvest Water Infrastructure Harvest Water, which is in the design phase and slated to start construction by 2023, has secured recycled water pipeline alignments within the public rights-of-way directly in the path of some of the Project's proposed construction and road improvement locations along Franklin Boulevard, Twin Cities Road, Lambert Road, and in proximity to the Twin Cities Complex. In construction schedules proposed for all Project alternatives, construction of ancillary facilities to support the Twin Cities Complex are scheduled to begin in the first year of	Please refer to response to comment 539-12 regarding location relative to the Regional San's facilities and operations. DWR will coordinate with the Regional San regarding future design work, postconstruction pavement, and utility protection at facility locations for the Delta Conveyance Project and Harvest Water Project (in the vicinity of the Twin Cities Complex). Baseline conditions will be evaluated during design, and monitoring will be performed prior to any construction commencing. This will include a condition assessment of existing utilities and roadways in coordination with the appropriate agencies. As described in Chapter 3, Description of the Proposed Project and Alternatives, section titled Access Roads, and the

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	the Project. Facility locations for the DCP and Harvest Water would be in direct conflict with one another, and in the event construction activities are concurrent, Regional San [Sacramento Regional County Sanitation District] will require close coordination with DCP designers to minimize conflicts and look for cooperative opportunities to address post construction pavement and utility restoration. Any Project activities that may begin in advance of DCP facility construction, such as potential road improvements in this area, must ensure that earth and equipment loading do not compromise Regional San infrastructure. Coordination must take place to ensure that Harvest Water turnout locations and pipeline appurtenances within and immediately adjacent to the right-of-way, including air relief valves, blowoff valves, fire standpipes, on-farm connection assemblies, monitoring wells, and pipeline cathodic protection stations, will be sufficiently avoided or relocated by the Project contractors prior to road widening and improvement work that would impact this infrastructure.	Engineering Project Reports (Delta Conveyance Design and Construction Authority 2022g, 2022h), many construction access roads will be modified prior to construction and maintained during construction.
539-37	[Exhibit 1: Map of Harvest Water Pumping Station and other pipelines that may conflict with DCP construction.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter.
539-38	C. The DEIR Does Not Adequately Analyze Project Effects on Water Quality Project operations that result in changes to freshwater flows or shifts in water quality have the potential to greatly affect Regional San's [Sacramento Regional County Sanitation District] operations and its ability to comply with its NPDES [National Pollutant Discharge Elimination System] permit obligations or future water quality standards. For Clean Water	The State of California (State Water Resources Control Board), with oversight/input from U.S. Environmental Protection Agency (EPA), regulates water quality through the establishment of water quality standards. Water quality standards include: (1) the designated beneficial uses of waterbodies, (2) adopted water quality objectives/criteria that when met will achieve water quality that is protective of the designated beneficial uses, and (3) an Antidegradation Policy. The latter provides the state with the ability to regulate (i.e., limit) the degradation of high-quality waters when water quality objectives and criteria are being met. The

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	Act Section 303(d)-listed pollutants, a State and federal recognition of "impaired waters", further impairment of the Delta ecosystem by Project activities and operations could increase regulatory pressures on other entities in the region, including Regional San. The DEIR, however, fails to adequately identify, analyze, and mitigate significant project effects on increased methylmercury levels in fish and increased electrical conductivity in already-impaired Delta waters. Additionally, the DEIR fails to adequately identify, analyze, and mitigate significant project effects of more frequent cyanobacteria harmful algal blooms (CHABs) associated with project-caused increases in residence time at already impacted areas within the Delta. 1. Cyanobacteria Harmful Algal Blooms (CHABs) Mr. Grovhoug offers the following discussion of the adequacy of the DEIR's analysis of impacts to CHABs: [Footnote 70: LWA Comments, pp. 5-6] In Chapter 9 and in Appendix 9L, the five factors which provide favorable conditions for blooms of Cyanobacteria and Harmful Algae are stated. These factors include: a. Elevated water temperatures (typically above 19 degrees C) b. Decreased channel velocities and associated decreases in turbulence and mixing c. Increased hydraulic residence times d. Increased water column irradiance due to decreased	approach to assessing water quality impacts in Chapter 9, Water Quality, is reflective of the State's approach to regulating water quality described above. Specifically, the assessments evaluate how project operations would alter water quality, and then evaluate whether such changes to water quality would, or would not, impact the designated beneficial uses of waterbodies. Regional San's operations of its Sacramento Regional Wastewater Treatment Plant to dispose of effluent into the Sacramento River does not constitute a designated beneficial use of the Sacramento River and, therefore, was not assessed in Chapter 9. Impacts WQ-5 (EC) and WQ-6 (mercury) thoroughly assessed the impacts of operations of the alternatives on these water quality parameters. These impact assessments specifically acknowledge and consider the fact that these constituents are currently Clean Water Act Section 303(d)-listed. Based on substantial evidence, these impact assessments conclude that the effects of project operations on EC levels and methylmercury fish tissue concentrations would not make the existing impairments to beneficial uses discernably worse (i.e., would not result in "further impairment"). As noted in the comment, increases in residence time would occur in Discovery Bay. This location has very long residence times (i.e., 2 to 5 weeks) under existing conditions. Increases in residence time for the project alternatives may contribute to more Microcystis cell and colony production and accumulation/aggregation in Discovery Bay due to a 1- to 2-day increase in residence time in July at this location. While there is uncertainty regarding how modeled increases in residence time would translate to Microcystis bloom size through additional growth, accumulation, and aggregation provided by longer residence time, an additional day or two of residence time at Discovery Bay (a location that already has annual CHAB events) would not cause Microcystis blooms to substantially increase in size or last substantially longer, relative to existing conditions. Impact WQ-14 (cyanobacteria harmful algal blooms [CHABs]) determined, based on substantial evidence, that the effects of operations

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	turbidity and increased water clarity e. Adequate nutrient levels to support blooms These factors have been confirmed in research findings compiled for the Central Valley Water Board's Delta Nutrient Research Plan (2018). On page Appendix 9L-40, the results of modeling studies are stated which indicate that the proposed Project will increase hydraulic residence times at Discovery Bay in the Central Delta by up to 52 hours in September. Discovery Bay is a location where CHAB problems have been well documented. The DEIR states that there is uncertainty regarding the impact of such a Project-related increase in residence time on the duration and extent of CHABs at this location. The DEIR notes that this uncertainty is a result of the fact that there are no area-specific residence studies that have been published which would allow the quantification of bloom size in response to the Project-induced increase in residence time. In an attempt to measure residence time, the DEIR includes in its analysis the use of Delta sub-regions, which creates artificial and inaccurate measurements regarding residence time (see Section V.C.2. [see comments 42-43], below). With regard to the impact on cyanotoxins, the DEIR notes that the factors relating bloom size to toxin levels are not well understood at this time. Despite this acknowledged uncertainty and lack of information, the DEIR concludes definitively (see App. 9L-43:21-23) that the increased residence time associated with the project would not substantially increase the size or extend the duration of CHABs relative to the No Project alternative. Additionally, at Appendix	of the alternatives on CHABs would be less than significant. Therefore, no mitigation is required. Please also see response to comment 539-159 regarding CHABs.

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	9L-44:1-3, the EIR concludes that the proposed project will not substantially increase cyanotoxins in the Delta relative to the No Project Alternative. Finally, on at Appendix 9L-44:4-6, the EIR concludes that none of the project alternatives would result in increased frequency or magnitude of CHABs which would be sufficient to cause an adverse effect on any beneficial use of any water body in the Delta. The DEIR should be modified to properly characterize these conclusions as uncertain and lacking solid scientific foundation. Given this uncertainty, the EIR should include mitigation measures to assist in the control of CHABs in the Discovery Bay area where current problems exist. The fact that the proposed project will likely make an existing problem worse is adequate justification for such mitigation.	
539-39	2. Residence Time In order to understand the effects of project construction and operation on water quality as measured by accumulation of CHABs within the Delta, the DEIR evaluated the Project's effects on Delta hydrodynamics and residence time, or the amount of time water remains within the system. Residence time, according to the DEIR, "can affect the degree to which CHABs accumulate and aggregate in different Delta regions," [Footnote 71: DEIR Ch. 9 at 9-158:26-27.] providing CHABs with more time to coalesce and form colonies of harmful blooms. In its assessment of the DEIR's method of analysis for evaluating project effects on residence time, Exponent determined that the DEIR improperly masks the true significance of impacts and lacks the level of detail necessary for an informed understanding of the nature and magnitude of	The comment assertion that the residence time modeling approach supporting the CHABs analysis in Chapter 9, Water Quality, is flawed is not supported by the current scientific understanding of cyanobacteria growth and the formation of CHABs in the Delta. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the residence time modeling to support the CHABs analysis in Impact WQ-14.

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	impacts. [Footnote 72: Exponent Technical Memorandum, pp. 8-14.] The DEIR's analysis involved separating the Delta into several isolated sub-regions and simulating the movement of constituents within channels in the sub-regions. Residence time was defined for purposes of the analysis and for a given channel as the length of time it took for 90 percent of the constituents to leave through either end of the channel. The residence time for the entire sub-region is defined in the DEIR as the average of the length of residence time for the individual channels within the sub-region. [Footnote 73: DEIR App. 5A-C at C-21:7-16.] The DEIR concluded that residence time would not be substantially affected by the project in the northern, southern, western, or eastern Delta, and that residence times in the central Delta may be slightly increased by the project compared to existing conditions, due to the proposed north Delta diversions resulting in "reduced south Delta pumping under a few circumstances." [Footnote 74: DEIR Ch. 9 at 9-173:32-37.] However, because residence times and their ultimate effect on CHABs in the Delta can be "highly variable," and because "substantial uncertainty exists" surrounding the correlation of residence time to cyanobacteria bloom size, the DEIR concluded that the Project and proposed alternatives "are not expected to substantially increase microcystin or any other cyanotoxins in the Delta, relative to existing conditions at the Delta assessment locations." [Footnote 75: DEIR Ch. 9 at 9-174:12-15, 9-175:9-11, 9-178:1-5.] The DEIR's analysis of residence time, however, is fundamentally flawed and masks true residence time while underestimating the Project's potential effects to CHABs. As detailed in the Exponent Technical Memorandum (Exhibit C)	

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	[Attachment 3], the DEIR's dissection of the Delta into its sub-regions, the selection of which appears to be arbitrary since no basis is provided, serves to generate artificial residence times that in effect measure only the time that water stays in each sub-region, rather than actual time that the water -- and any algal cells it contains -- remains in the Delta as a whole. Furthermore, Exponent points out, "[m]any of the sub-regions are connected to multiple channels within the Delta; for example, the Middle River sub-region is connected to five separate channels ", such that DWR's original tracer may exit this sub-region through five different channels (but remain in the Delta) in addition to being pumped out of the channels for in-Delta consumptive use (thus being removed from the Delta)." [Footnote 76: Exponent Technical Memorandum, p. 13.] Algal cells, meanwhile, may flow through several of the DEIR's sub-regions before they are removed from the Delta. For example, a portion of the San Joaquin River water that enters the Delta at Vernalis may flow through the Stockton Deep Ship Channel, Venice Island, Franks Tract, and Jersey Island sub-regions (and through channels between these sub-regions) before exiting the Delta. Thus, algal cells that may be present within one sub-region of the Delta will flow through other Delta channels and remain within the Delta for far longer than indicated by DWR's calculation of the pseudo-residence time. [Footnote 77: Exponent Technical Memorandum, p. 13.]	
539-40	The DEIR reasons that because residence time is the only factor affecting the frequency of CHABs shown to increase as a result of project implementation, the project will not have any impact on CHAB growth. It concludes that "[b]ecause these other four parameters of water temperature, turbulence and mixing, nutrient levels, and water clarity and associated irradiance are key to the initiation of blooms and subsequent growth, the	The comment incorrectly states the reasoning behind the impact determination in Chapter 9, Water Quality, for Impact WQ-14 (cyanobacteria harmful algae blooms [CHABs]). This impact assessment concluded less than significant because: (1) project operations would have negligible, if any, effects on four of the five drivers of CHABs in the Delta (water temperature, turbulence and mixing, nutrient levels, and water clarity and associated irradiance); and (2) the effect of project operations

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	project alternatives would not be expected to cause more frequent CHABs anywhere in the Delta, relative to existing conditions." [Footnote 78: DEIR Ch. 9 at 9-173:44–9-174:3] In reaching this conclusion, however, the DEIR omits discussion of future climate change conditions in which it is reasonably foreseeable that the other factors affecting the occurrence of CHABs, such as temperature, would increase. In such a scenario, increased residence times resulting from the project could significantly exacerbate the occurrence of CHABs.	on residence times across the Delta would not be sufficiently large to result in substantially larger blooms, relative to blooms that will occur for existing conditions. Future conditions with climate change are addressed in Appendix 9L, Water Quality 2040 Analysis. Based on analysis of the five drivers of CHABs at 2040, including modeled residence time, the impact conclusion for CHABs at 2040 does not differ from the impact conclusion in Chapter 9.
539-41	Exponent notes that DWR itself has, in past models estimating Delta residence time, established that residence time should be defined as "the time required for flows entering the Delta to leave the Delta." [Footnote 79: Exponent Technical Memorandum, p. 16.] In 2006, DWR calculated the residence time of fresh water in the Delta using particle tracking simulations to track water entering the Delta at Freeport and Vernalis and calculating its residence time, defined as the number of days required for 75 percent of the particles injected over a 24-hour period to leave or be removed from Delta channels. [Footnote 80: Exponent Technical Memorandum, p. 16, citing Mierzwa et al. (2006a, 2006b), and Wilde, et al. (2006c).] Exponent, noting that residence times are shorter during high flow conditions while they are longer during low flows, assessed the residence time of water within the Delta for the proposed Project and existing condition scenario for each month of the 93-year simulation period analyzed by DWR, in addition to calculating monthly residence times for the 2040 No Project and proposed project scenarios. [Footnote 81: A sea-level rise of 1.8 feet was assumed for 2040 No Project alternative operations (see Exponent Technical Memorandum, p. 18).] Based on these calculations, Exponent concluded that mean residence time under the proposed	The comment assertion that the residence time modeling approach supporting the CHABs analysis in Chapter 9, Water Quality, is flawed is not supported by the current scientific understanding of cyanobacteria growth and the formation of CHABs in the Delta. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the residence time modeling to support the CHABs analysis in Impact WQ-14.

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	project will increase by between 8 percent and 15 percent over either the existing conditions or the 2040 No Project alternative scenarios. [Footnote 82: Exponent Technical Memorandum, p. 18.] CHABs are an existing major water quality problem in the Delta which the DCP will exacerbate by substantially increasing residence time, a key factor in CHAB formation. The DEIR analysis must be revised using an appropriate methodology and must clearly disclose the Project's effect on residence time and to acknowledge the Project's likely substantial adverse impact on CHAB formation. Mitigation measures and alternatives that would avoid or substantially lessen the significant increases in residence time must be included, and the DEIR recirculated for public review and comment.	
539-42	3. Mercury Mr. Grovhoug notes that DEIR Chapter 9 states that the Compensatory Mitigation Plan (CMP) (described in Appendix 3F) will yield potentially significant impacts associated with methylmercury and the associated levels of methylmercury in Delta fish. [Footnote 83: WA Comments, p. 3.] He sums up the DEIR's discussion of Project impacts on mercury levels in the Delta: The CMP is intended to provide mitigation for anticipated impacts of the construction and operation of the DCP on Special-status species and aquatic resources in the Delta. The CMP identifies sites and plans within the Delta for habitat creation and enhancement to offset DCP impacts. The conclusion stated in the DEIR that the CMP will create potentially significant impacts is based on available information which indicates that the construction and operation of tidal	Please refer to Chapter 9, Water Quality, regarding the analysis of the potential methylmercury impacts from CMP tidal restoration. This analysis discloses the uncertainty related to the potential for methylmercury formation at restoration sites and concludes that potentially significant impacts could occur because of the inherent uncertainty associated with mercury methylation rates in these created wetland habitats. Please refer to Mitigation Measure WQ-6 for details about the proposed mercury management plan. This plan will be included in the Mitigation Monitoring and Reporting Program for the EIR to ensure that this mitigation measure is implemented to reduce potential impacts to less-than-significant levels. The CMP is based on anticipated mitigation needs for the proposed alternatives as presented in the EIR. The final compensatory habitat mitigation needs for the project will be determined once all regulatory permits and approvals are secured. The CMP is of sufficient detail to meet the requirements of CEQA. It is anticipated that additional design and management planning, including more detailed performance standards, monitoring methods, and adaptive management actions, would be refined

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	and non-tidal wetlands may result in increased methylmercury concentrations in the Delta. As described in DEIR Appendix 3F at 3F-70:24-39, DWR proposes to develop and implement a Mercury Management and Monitoring Plan (MMMP) to address this potentially significant impact. The MMMP is intended to identify design elements in the wetlands projects that can minimize methylmercury impacts. The success of such efforts is uncertain based on available information and the current state of knowledge in this area. (See USGS (2021) and other studies performed in support of the Delta Mercury TMDL.) The EIR should acknowledge this significant uncertainty and address the potential that the CMP will lead to significant impacts. [Footnote 83] LWA Comments, p. 3.	through the permitting process and prior to project approval and project initiation. As implementation of the CMP proceeds, the mercury management plan may be amended based on site-specific information to reduce potential impacts to the extent possible.
539-43	The issue of methylmercury impacts in the Delta deserves proper context. The Delta is Section 303(d)-listed for elevated levels of methylmercury in fish. A Delta Methylmercury TMDL was adopted and approved by USEPA in 2011. This TMDL has required actions by a host of parties that contribute mercury to the Delta, or otherwise impact concentrations of methylmercury in the Delta. DWR is one of the parties with responsibilities to take actions under the TMDL. As noted in DEIR Appendix 9H, existing levels of methylmercury in largemouth bass (the indicator species used in the Delta Methylmercury TMDL and associated fish tissue objectives) are well above the adopted fish tissue objective of 0.24 mg/kg (see Table 9H-2, for example). Significant regulatory pressure, as authorized under the Clean Water Act and implemented by the State and Central Valley Water Boards and USEPA Region IX, will continue to occur as long as this situation regarding elevated fish tissue levels continues. This may include more stringent wasteload allocations, NPDES [National Pollutant	Methylmercury impacts were evaluated through a detailed quantitative analysis in Chapter 9, Water Quality, Impact WQ-6 (mercury) supported by modeling output in Appendix 9H, Mercury. These analyses found that modeled fish tissue methylmercury concentrations under existing conditions and for project alternatives did not substantially differ. Impacts for mercury associated with operation of the Delta Conveyance Project were, therefore, determined to be less than significant and the project would not exacerbate Section 303(d)-listings in the Delta due to elevated concentrations of methylmercury in fish. Furthermore, project operations would not increase mercury loading to the Delta. Chapter 5, Surface Water, describes how there would be consistent decreases in long-term average flows in all months for the Sacramento River north of Courtland (i.e., downstream of the proposed north Delta intakes) due to project diversions. Thus, Sacramento River diversions associated with the project would reduce mercury and methylmercury loads in the north Delta.

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	Discharge Elimination System] permit requirements, special study requirements and associated resource expenditures. To the extent the proposed Project will exacerbate and prolong the current problem (by increasing levels of mercury in fish), other parties that are regulated under the TMDL that have been shown to have minimal impact on fish tissue levels (e.g. Regional San) may be required to take additional actions to comply with the above stated TMDL implementation requirements, such as complying with additional limitations for dischargers already subject to a TMDL, and who must comply with adjusted wasteload allocations if those adjustments can be shown to help meet the TMDL. [Footnote 84: EPA Guidance for Reviewing TMDLs Under Existing Regulations (1992), p. 3, located at https://www.epa.gov/sites/default/files/2015-10/documents/2002_06_04_tmdl_guidance_final52002.pdf.] This fact must be acknowledged explicitly in the EIR. The uncertain success of the MMMP (or additional measures) in mitigating methylmercury impacts is therefore problematic and should be acknowledged. To begin to mitigate identified impacts, the DEIR should include tangible contributions to the resolution of the Delta Mercury TMDL, including participation in modeling and monitoring studies to understand the actual impacts of the CMP and ultimate attainability of the adopted fish tissue objectives. Legally, questions exist under the anti-degradation policy whether the federally permitted DCP can go forward if the Project makes an existing impairment worse. Under the federal antidegradation policy, "major federal actions" that affect water quality (pursuant to NEPA and the Endangered Species Act) trigger the application of the federal antidegradation	Regarding the Compensatory Mitigation Plan, Impact WQ-6 evaluated potential increases with mercury associated with compensatory mitigation activities in the Lower Yolo Bypass and Cache Slough Complex. The analysis describes multiple studies that suggest a low potential for increases in methylmercury in the waters and fish tissues in restored tidal wetlands, but acknowledges conditions are site-specific and vary over time and, therefore, may not be predictive of mercury methylation in all tidal wetlands created within the Delta. In an abundance of caution, DWR determined mercury related to compensatory mitigation to be potentially significant. Thus, Mitigation Measure WQ-6 directs the development and implementation of a mercury management and monitoring plan to minimize the generation of methylmercury within the new tidal habitats by appropriate siting, design, source control, and management measures. A performance standard is included to implement adaptive management actions to reduce methylmercury generation in the tidal habitats if monitoring data show statistically significant and higher average mercury concentrations in tissues of fish collected from within and immediately adjacent to the new tidal habitat. Thus, the project addresses compliance with methylmercury total maximum daily load (TMDL) allocations. Please also see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding the State's Antidegradation Policy as it relates to the project.

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	policy and requirements. Those requirements prohibit actions that would lower water quality in areas where existing water quality objectives are not attained. At a minimum, this issue should be carefully considered and directly addressed in the DEIR. [Footnote 84]	
539-44	4. Electrical Conductivity The DEIR identifies that the project will increase long-term average levels of electrical conductivity (EC) in the Sacramento River at Three Mile Slough and at Emmaton, as well as in the San Joaquin River at Jersey Point. [Footnote 85: DEIR Ch. 9 at 9-3:4-10, 9-88:3-6, 9-89 Table 9-23.] Additionally, all proposed project alternatives will result in similar increases in EC -- with long-term averages projected to increase between 8 percent and 11 percent -- analyzed under the 2040 water quality analysis. [Footnote 86: DEIR Appendix 9L at 9L-19:22:21-23, 9L-19:33-35, 9L-22:1-14.] These specific locations, located in the Western Delta region, Mr. Grovhoug notes, are listed as impaired for EC or salinity under the CWA's 303(d) list of impaired waterways. [Footnote 87: See DEIR Ch. 9 at 9-94:8-11; LWA Comments, p. 3.] While the DEIR concludes that some areas included in the Section 303(d) list would not be affected by the Project on a "long-term basis," it does acknowledge that projected increases at other locations, such as those at Emmaton and Three Mile Slough, "could further degrade water quality in the CWA Section 303(d)-listed western Delta by measurable levels." [Footnote 88: DEIR Ch. 9 at 9-94:22-23.] Such increases in EC in Section 303(d)-listed waters are problematic, Mr. Grovhoug points out, in that they will make attainment of	To list a waterbody on the state's Clean Water Act Section 303(d) list of impaired waterbodies, water quality monitoring data must show that an adopted water quality objective is being exceeded. The Bay-Delta WQCP establishes the water quality objectives for electrical conductivity (EC) in the Delta. Appendix 9G, Electrical Conductivity, and Appendix 9L, Water Quality 2040 Analysis (Attachment 9L.6, Electrical Conductivity), both contain tables titled Percent of Days in Water Years 1923–2015 That Electrical Conductivity Exceeded the Agricultural Beneficial Uses Water Quality Objective and Percent of Days in Water Years 1923–2015 That Electrical Conductivity Exceeded the Fish and Wildlife Beneficial Uses Water Quality Objective. These tables show that the percent of time that EC objectives are exceeded differs little, if at all, between the baseline (existing conditions), No Project Alternative, and the project alternatives. Any minor differences shown are modeling artifacts because DWR must operate in real-time to comply with objectives, in accordance with State Water Board Decision 1641, as described in Impact WQ-5. Note that the Bay-Delta WQCP does not establish an EC objective for Threemile Slough. Modeling output presented in Appendix 9G and assessed in Chapter 9, Water Quality, Impact WQ-5, and presented an assessed in Appendix 9L shows project operations would not make attainment of the applicable Delta EC objectives more difficult than under existing conditions or the No Project Alternative at 2040. The assessments in Chapter 9, Impact WQ-5 and Appendix 9L, Impact WQ-5 present the EC degradation that could occur from project operations for all months of the year, including months when Bay-Delta WQCP objectives are not applicable. The modeled degradation was assessed for its effects on the agricultural supply (AGR)

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	water quality objectives and protection of beneficial uses more difficult for the entire regulated community. [Footnote 89: LWA Comments, pp. 4-5.] When a TMDL is developed in the future (as required under the Clean Water Act) to address EC impairment throughout the Delta, these worsened conditions will potentially result in higher compliance costs and increased management requirements to communities and agricultural entities that will be included as sources in the TMDL. Despite the above, the DEIR, in Chapter 9 and Appendix 9L, asserts that these increases in EC levels are not a significant impact. Specifically, at Appendix 9L-21:35-38, the DEIR states that the "increases in EC at Emmaton and Three Mile Slough could further degrade water quality" in the Section 303(d)-listed Western Delta by measurable levels, but that the degradation "would not contribute to beneficial use impairment that would be made discernibly worse" (emphasis added). This determination does not square with water quality goals, water quality standards, or antidegradation requirements under the Clean Water Act. It also is not consistent with the direction of the California Water Code, which requires the adoption of water quality objectives to protect beneficial uses. It also seems to fail on its own merits, since a measurable decline in impaired water quality is by definition "discernible." As noted in our comments pertaining to mercury, serious legal questions exist regarding the acceptability of project-induced water quality deterioration in Section 303(d)-listed waters under the federal anti-degradation policy. These issues are not addressed in the DEIR and must be resolved through appropriate mitigation.	beneficial use. The greatest degradation was shown to occur September through January, and the EC degradation in these months would not be expected to adversely impact the AGR beneficial use from water diverted at Emmaton, Threemile Slough, San Joaquin River at Jersey Point or elsewhere in the Delta during these months. The September through January degradation would not make the existing west Delta impairment (i.e., CWA Section 303(d) listing) discernibly worse because no EC objectives are applicable at Emmaton or Jersey Point during these months. As such, project operations would not make attaining the applicable water quality objectives for EC harder to achieve. In addition, please also see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding the State's Antidegradation Policy as it relates to the project.

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539-45	An additional concern pertaining to EC impacts of the proposed project is raised in DEIR Chapter 9, page 9-3, where it is stated that no exceedances of Delta EC water quality objectives will occur. The rationale is that the Project operators are required to meet these objectives under State Water Board Order D-1641, and that the Project will be operated to achieve compliance. Furthermore, as Exponent notes: DWR has described Project operations in Appendix 5A, Section B of the Draft EIR. Project operations were simulated using the CalSim3 and DSM2 models as described in the EIR. In a section called "Relaxation of Regulatory Requirements," DWR notes that "CalSim 3 makes storage release decisions and routes water through the stream network, based on a set of pre-defined rules that represent existing or future assumed regulations and operations criteria. These pre-defined rules do not include temporary relaxation of non-discretionary regulatory requirements such as occurred in 2014 and 2015 as a result of Temporary Urgent Change Petitions submitted to the State Water Board." (emphasis added). DWR further notes that "Frequency of extreme conditions is expected to increase in the future under the combined effects of climate change and sea level rise." Thus, DWR's modeling and project evaluations do not incorporate the changed operations that have occurred pursuant to the Temporary Urgent Change Petitions (TUCPs) issued in recent years during critically dry conditions. In addition to the TUCPs issued in the critically dry years of 2014 and 2015, TUCPs were also issued in 2016, 2021 and 2022. The historical simulation period of 1922-2015 includes 15 critically dry years. It is entirely foreseeable that TUCPs may be adopted	Temporary Urgency Change Petitions (TUCPs) occur infrequently and under unique and very extreme circumstances and it would be speculative to predict issuance of future TUCPs. TUCPs are not part of the project, operational criteria, or operations for the Delta Conveyance Project and, as such, fall outside the scope of CEQA requirements for this EIR. Please see Common Response 3, Alternatives Development and Description, regarding TUCPs and project operations during dry periods when TUCPs may be necessary.

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	and project operations may be modified during critically dry years in the future, yet DWR has not evaluated water quality conditions within the Delta under these conditions, including the potential impact of operation of the new proposed North Delta Diversion intakes. Because DWR has not simulated the changed operations that may result during critically dry conditions, DWR's modeling evaluation and discussion of impacts within the Draft EIR is incomplete. Further, DWR's model simulations of future conditions indicate that the salinity of the Delta will increase over time as a result of sea level rise. DWR has not disclosed if it anticipates requiring TUCPs more frequently under these conditions, or the water quality impacts of operating under TUCPs in the future. [Footnote 90: Exponent Technical Memorandum, pp. 6-7.] Information should be provided in the DEIR explicitly documenting the past history of compliance with the south Delta water quality objectives. This information must be provided to assure readers of the DEIR that future compliance with these objectives can and will be obtained. Based on the above [comment 44 included], the DEIR should be modified to acknowledge the significant impacts that the DCP will have on EC levels in the Western Delta. Additionally, the EIR should include mitigation measures, and identify and discuss alternatives, to ameliorate these significant impacts.	
539-46	The DEIR also should acknowledge the project's potential impacts on other salt dischargers in the Central Valley associated with a future TMDL to address EC impairment in the Delta. TMDLs typically require an inventory of salt dischargers and the establishment of wasteload and load allocations for	As described in response to comment 539-44, project operations would not cause a worsening of Delta EC impairments, and thus will not cause more restrictive salinity wasteload allocations to be placed on other parties.

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	those dischargers that will result in resolution of the impairment. Since the DCP will worsen EC conditions in some parts of the Delta, it may lead to more restrictive allocations for other parties. Generally, more restrictive allocations will require greater resource expenditures by other parties to comply with those allocations, potentially requiring construction of new facilities to achieve compliance.	
539-47	D. The DEIR Provides no Facts or Analysis to Support its Conclusions Regarding Project Impacts on Reverse Flows A particular concern to Regional San [Sacramento Regional County Sanitation District] is the Project's potential to affect discharge operations and facilities at the SRWTP [Sacramento Regional Wastewater Treatment Plant] and its effects on Regional San's ability to meet the obligations of its NPDES [National Pollutant Elimination Discharge System] permit, which regulates effluent discharges according to the requirement that the river flow-to- effluent ratio be at least 14:1. When river flow rates drop such that the 14:1 ratio cannot be maintained, Regional San must divert SRWTP's treated effluent to on-site emergency storage basins (ESBs) until river flow rates return to levels that allow the treated effluent to be discharged. These types of diversions typically occur when the Sacramento River flows are low and the tide is high; under this combination of factors, the Sacramento River flow at Freeport can reverse direction and temporarily flow upstream. A Project-related increase in frequency or duration of reverse flow events at the SRWTP discharge would cause Regional San to have to cease discharges and retain treated effluent in ESBs, potentially exceeding their capacity or affecting Regional San's ability to discharge to the river (if the volume of "withheld" effluent along with current discharge	Please see response to comment 539-18 regarding reverse flows and information that can be found in Chapter 5, Surface Water, and in the figures titled Frequency of Duration of Reverse Flow Events and Frequency of Reverse Flow Distances, as well as the sweeping velocity requirement that would minimize changes in reverse flows. As described in the response to comment 539-18, there is no increase in frequency of stronger reverse flow events between existing conditions and the project alternatives. Impacts on the FRWP and the Sacramento Regional Wastewater Treatment Plant would not occur as a result of reverse flows under project alternative conditions. The reference to the Chapter 3, Description of the Proposed Project and Alternatives, footnote 11 in the comment conflates the reverse flows that occur under existing conditions and would continue to occur under project operations that are in proximity to Sacramento Regional Wastewater Treatment Plant and the FRWP with reverse flows that occur elsewhere in the Delta. The location mentioned in the footnote and the comment, Georgiana Slough, is more than 20 miles downstream of the location of the wastewater treatment plant and FRWP. Chapter 12, Fish and Aquatic Resources, evaluates far-field reverse flows related to fish and proposes mitigation to reduce potential far-field effects related to reverse flows around Georgiana Slough. These far-field effects are what Chapter 3 and the footnote are referring to. The Delta Conveyance Project is an independent and separate project from

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	exceeds the 14:1 ratio). These events can also require the Freeport Regional Water Project (located just 0.8 miles upstream of the SRWTP) to cease its intake of water, further impacting the availability of water supplies for residents of Sacramento, Alameda, and Contra Costa counties. If Project-related diversions exceeded the capacity of the ESBs, Regional San would be forced to expand their capacity, with attendant environmental impacts from construction that are unacknowledged and unmitigated in the DEIR. The DCP predecessor, California WaterFix was shown to have significant impacts on SRWTP ESBs. The DEIR alternatives include the same northernmost Intake A location proposed as part of WaterFix, with higher diversion rates (up to 7,500 cfs) than the proposed Project. DWR may approve that intake location and capacity alternative upon certification of the EIR, or at some future point. Indeed, it is reasonably foreseeable that the Project proponents will seek to increase diversions through the DCP in response to rising sea levels or if Delta levees fail, and to maximize their return on investment in higher quality water, and the Project description does not include any operational limitations that would prevent DWR from doing so. The concerns Regional San expressed about BDCP and WaterFix - that those projects would cause increased reverse flow events which would in turn impact the SRWTP's ability to discharge - are equally at issue here. The Project's intakes may cause shifts in the timing and magnitude of SWP exports from the Delta, which could in turn cause periodic reductions in the volume and velocity of water flowing down the Sacramento River below the Freeport area. Reduced flow downstream of Regional San's discharge location and the Freeport Project intake will strengthen the tidal influence at	Bay Delta Conservation Plan/California WaterFix. The comments referencing conclusions made for the California WaterFix project EIR and the State Water Resources Control Board Change in Point of Diversion processes are not applicable to the Delta Conveyance Project. These comments are not applicable because the Delta Conveyance Project proposed operations and the hydrologic modeling simulating proposed operations are substantially different from what was evaluated for California WaterFix. As described in Chapter 3, Description of the Proposed Project and Alternatives, and further explained in Common Response 3, Alternatives Development and Description, the project would be operated to shift diversions from the south Delta to the north Delta (during the summer and fall) or divert water in the north Delta during excess flow conditions while meeting regulatory requirements (during the winter and spring). The analyses provided in the EIR Chapters 5–32 evaluate the potential impacts of the proposed operations for all alternatives. The comment assertion and implication that DWR will unilaterally decide to modify operations to something other than what is described in Chapter 3, and ultimately approved, is unfounded. DWR will operate the project as described in Chapter 3.

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	these points, leading to more frequent or stronger reverse flow events. Should Regional San be forced to divert effluent to ESBs for longer durations and in larger quantities in order to meet its NPDES permit obligations, its operational flexibility will be compromised and it may be required to construct additional ESBs. Despite Regional San's numerous past efforts to bring this issue to the attention of DWR (comments submitted on the DEIR/DEIS for the Bay Delta Conservation Plan (BDCP) and the RDEIR/RDEIS and FEIR/FEIS for California WaterFix, as well as testimony provided for the WaterFix water rights change petition proceeding all addressed impacts from reverse flow events extensively), the DEIR has no meaningful discussion of the Project's potential to impact reverse flow events in the Delta, nor does it provide a description of its analysis of these Project impacts. The DEIR in several locations recognizes the Project's potential to increase the frequency of reverse flows upstream of the intakes but offers only a cursory explanation of its conclusion that effects would not be significant: [DWR] determined the frequency of reverse flows in the Sacramento River upstream of the proposed intakes, near the Sacramento Regional Wastewater Treatment Plant, would increase slightly when the intakes were operating. The reverse flows attributable to these operations are very small in both duration and reverse flow distance. According to DSM2 results, there is no increase in frequency of stronger reverse flow events (reverse flow distance greater than 0.8 miles). [Footnote 91: DEIR Ch. 5 at 5-25:9-18. It should be noted that this brief discussion is found in Chapter 5, Surface Water, under a section labeled "No Project Alternative," which	

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	purportedly assesses future conditions if the Project does not proceed, yet discusses effects resulting from Project operations.] Later, the DEIR similarly states: Operation of the intakes could result in reverse flows in the Sacramento River. The extent of reverse flows were considered in relation to the operation of the Sacramento Regional Wastewater Treatment Plant. As described in Chapter 5, Surface Water, modeling shows that flows at Sacramento River at Sacramento Regional Wastewater Treatment Plant are not affected by DCP operation and low flows would occur at very similar frequency with or without DCP operations. Analysis of 15-minute DSM2 results further indicated that flows at Sacramento River at Sacramento Regional Wastewater Treatment Plant are not affected by DCP operation and low flows would occur at very similar frequency with or without DCP operations. Because the Sacramento Regional reverse flows attributable to project operations are very small in both duration and reverse flow distance, there would be no effect on Sacramento Regional Wastewater Treatment Plant. [Footnote 92: DEIR Ch. 21 at 21-40:6-16.] The DEIR provides no report or information by which to evaluate the basis for these statements nor the adequacy of its analysis of reverse flow events resulting from the Project. Regional San and our technical consultants examined the DEIR modeling appendices but could not identify any information that would support the conclusion quoted above. Consultants from Exponent examined the vast DEIR and concluded:	

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	DWR has not tabulated the number or duration of reverse flow events for the no-action alternative and for each of the modeled alternatives, nor has it presented its analysis in the form of figures that would allow a quantitative assessment of the number and duration of reverse flow events for each of the model simulations. Thus, it is not possible for Regional San to discern whether the increase in the number of reverse flow events is "at very similar frequency," whether the frequency of reverse flows would "increase slightly," or whether there would be "no effect" on Regional San's operations. Further, because DWR has not presented details of its analyses for the project alternatives, it is not possible for Regional San to ascertain whether the number and duration of reverse flow events would be similar for each of the project alternatives; this is particularly important for Alternatives 2a and 4a, which have the highest potential diversion capacity and which include a proposed third intake just downstream of the harmonic mixing zone described in Regional San's NPDES permit. [Footnote 93: Exponent Technical Memorandum, pp. 5-6.] CEQA requires that an EIR "be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." [Footnote 94: 14 C.C.R. § 15151.] An EIR that does not provide information that would allow those not involved in its preparation to evaluate the adequacy of its conclusions violates CEQA. Conclusory comments in support of environmental conclusions are generally inappropriate. [Footnote 95: Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal. (1988) 47 Cal.3d 376, 404 (Laurel Heights).] "To facilitate CEQA's informational role, the EIR must contain facts and analysis, not just the	

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	agency's bare conclusions or opinions." [Footnote 96: Laurel Heights, supra, at pp. 404-405, quoting Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn. (1986) 42 Cal.3d 929, 935.] Exponent found that no evaluation of the frequency and duration of reverse flow events for the future (2040) climate change condition had been performed. "Although the number of reverse flow events is expected to increase as a result of sea level rise, DWR has not presented an analysis of the number of reverse flow events in the 2040 no-project scenario, or whether the DCP project operations would increase the frequency or duration of reverse flow events in future conditions." [Footnote 97: Exponent Technical Memorandum, p. 6.] Furthermore, though the DEIR concluded that the DCP's potential to increase the frequency of reverse flow events will not result in any significant impacts, it states that tidal restoration efforts will be undertaken as mitigation to offset effects of reverse flows caused by Project diversions. [Footnote 98: DEIR Ch. 3 at 3-158:33-34, fn.11 (measures are designed to address fish impacts at Georgiana slough).] Coupled with the lack of substantial evidence supporting its conclusion that reverse flow impacts will not be significant, this statement, which acknowledges the DCP's potential to cause an increase in reverse flow events, appears to recognize that the Project's effects on reverse flows will be significant enough to require mitigation. The DEIR must be revised to include a robust, cohesive analysis of the DCP's potential to increase the frequency of reverse flow events in the vicinity of the SRWTP, including the evidence supporting the analysis, and must include adequate and enforceable mitigation measures that will reduce impacts to levels less than significant.	

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539-48	VI. IMPACTS TO PUBLIC UTILITIES The DEIR states that DWR will coordinate with local utilities during the design phase when construction location of the tunnel alignment is mapped out to avoid conflict with utility pipelines. [Footnote 99: DEIR Ch. 21 at 21-33:29-32.] The DEIR names just a few facilities that may lie in the path of Project construction or operation and may experience service interference if there is a physical conflict, such as the Hood Well and Treatment facility, the BBID [Byron Bethany Irrigation District] Mountain House Water Supply Main, and Stockton's raw water pipeline. [Footnote 100: DEIR Ch. 21 at 21-32:30-34.] The DEIR alludes to many more potential crossings with water and wastewater pipelines operated by SacSewer, Regional San, Sacramento County Water Agency and Stockton, among others, but it does not provide any of those details. Instead, readers are directed to locate the information in a Delta Conveyance Design and Construction Authority technical memoranda. [Footnote 101: DEIR Ch. 21 at 21-32:37-41.] SacSewer has multiple facilities and pump stations located within the area affected by proposed Project construction. SacSewer's pipes carry sewage to Regional San's system, which conveys the sewage to the SRWTP. Understanding which SacSewer facilities will be affected is necessary to understand the full range of Project impacts, including incremental environmental impacts associated with relocation or mitigation of SacSewer's facilities. Potential construction impacts to SacSewer facilities include areas where the proposed tunnel alignments or intake structures may be constructed over or adjacent to existing	As discussed in Chapter 21, Public Services and Utilities, in the section titled Impacts of the Project Alternatives on Public Services and Utilities, the Summary of Utility Crossings technical memoranda in the Engineering Project Reports (Delta Conveyance Design and Construction Authority 2022e, 2022f) describe the various potential crossings with water and wastewater pipelines operated by SacSewer that may occur. While it is possible for project alignments to cross under existing utilities where the locations are not currently known, crossing an existing pipeline does not mean there would be a physical conflict, because the depth of the tunnel (over 100 feet) would be well below the depth of sewer pipelines. Therefore, no relocation of sewer lines would be required. DWR will continue to consult with utility operators, including SacSewer, prior to finalization of design regarding any proposed uses within SacSewer's right of way to avoid conflicts. During design and construction DWR will complete utility surveys and use subsurface techniques to identify the locations of all utilities within the construction area (e.g., vacuum potholing) as described in the Potential Future Field Investigations technical memoranda in the Engineering Project Reports (Delta Conveyance Design and Construction Authority 2022b, 2022c). DWR will incorporate methods to ensure no conflict would occur with SASD's existing utilities. The analysis in the EIR does not support the assertion that a recirculation of the EIR is required. Rather, CEQA allows for the evaluation of impacts at a level of conceptual design. Regarding the scope of the EIR analysis, please see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues.

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	pipelines and associated appurtenances. Construction loading evaluations may need to be performed to evaluate any Project loading impacts on SacSewer facilities and pipelines. SacSewer will seek assurance from the Project proponent that all necessary improvements required to protect and mitigate impacts to existing SacSewer infrastructure will be at the Project proponents' expense. SacSewer requests that DWR delineate SacSewer facilities that may be impacted by the tunnel alignments (including launch sites and supporting infrastructure) or intake structures within the exhibits/figures and include this information in a recirculated draft EIR so that SacSewer may evaluate and understand the potential effects, and proposed mitigation. If any SacSewer facilities may be affected, close coordination with SacSewer will be required regarding the Project impacts on these existing facilities, which are critical public infrastructure. Finally, the DEIR must be revised to include a firm mitigation commitment that any relocation or mitigation efforts pertaining to SacSewer facilities will be at the Project proponent's expense.	
539-49	In areas where the proposed tunnel alignment or intake structures may be constructed over or adjacent to existing SacSewer infrastructure, an operating agreement (or equal) will be required to be entered into between the Project proponent and SacSewer. This agreement will accommodate and account for any future responsibilities associated with access, maintenance, repair, or replacement of SacSewer infrastructure and property.	Please see response to comment 539-48 regarding the potential for project facilities to conflict with utility infrastructure as well as design information to be provided for review prior to final design. DWR will comply with any operating agreement or contract it enters.
539-50	VII. The DEIR Does Not Analyze or Incorporate Adequate Mitigation for Project Impacts	The EIR investigates and proposes adequate and feasible mitigation that would effectively reduce or avoid potentially significant environmental impacts disclosed in the resource chapters of the EIR, pursuant to CEQA, or

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	CEQA requires that an EIR describe feasible measures for each significant impact that could minimize those impacts, which are separate from project design features and other non-binding measures. "Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments." [Footnote 102:14 C.C.R. § 15126.4(a)(2).] "A 'mitigation measure' is a suggestion or change that would reduce or minimize significant adverse impacts on the environment caused by the project as proposed." [Footnote 103: Lincoln Place Tenants Assn. v. City of Los Angeles (2007) 155 Cal.App.4th 425, 445.] A mitigation measure is not part of the project. [Footnote 104: Lotus v. Department of Transportation (2014) 223 Cal.App.4th 645, 656 (Lotus)] To ensure that a project's potential environmental impacts are fully analyzed and disclosed, and that the adequacy of proposed mitigation measures is considered, mitigation measures that are not incorporated into the project's design should not be treated as part of the project description. [Footnote 105: Lotus, supra, at pp. 655-656.] Mitigation measures that are mischaracterized as project components may obstruct or obscure project impacts, and should not be included in an initial analysis of a project's potential impacts. Such mischaracterization is a material error and a violation of CEQA. [Footnote 106: Mission Bay, supra, 6 Cal.App.5th at p. 185.] Mitigation measures, furthermore, must be clearly effective in reducing impacts to a less-than-significant level. [Footnote 107: Gray v. County of Madera (2008) 167 Cal.App.4th 1099, 1116] Mitigation measures that require development of a mitigation plan based on future studies are legally inadequate if they do not describe the anticipated management actions and do not	identifies if mitigation measures would not reduce impacts to a less-than-significant level. Please see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the approach to mitigation measures in the EIR, the CEQA requirements for mitigation measures, and the use and incorporation of mitigation measures that are not part of the project description. As described in Common Response 1, mitigation measures are typically not proposed for impacts that are identified as less than significant (e.g., Impacts WQ-1 through WQ-5 and WQ-7 through WQ-14 in Chapter 9, Water Quality). Thus, if mitigation is not proposed in the EIR, it means no significant or potentially significant impact was identified. In some instances, mitigation for impacts on habitat for special-status plant and wildlife species (including fish) as well as natural communities (including wetlands and other waters or "aquatic resources") are included in the CMP, which is discussed in detail in Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources. Also as described in Common Response 1, the impact analyses and the proposed feasible mitigation measures are based on substantial evidence, pursuant to CEQA. Please see Common Response 8, Relationship to other Plans, Projects, Policies, and Programs, regarding the Delta Reform Act and the relationship to the Delta Conveyance Project. As noted in that Common Response, Appendix 3E, Delta Reform Act Considerations, includes details on how the practical effect of many of the proposed mitigation measures and environmental commitments in the EIR would protect Delta values. Please refer to Chapter 9, Water Quality, regarding discussion of Impact WQ-5 (electrical conductivity [EC]), Impact WQ-6 (mercury), Impact WQ-14 (CHABs) upon implementation of the project. Impacts associated with EC and cyanobacterial harmful algal blooms (CHABs) are determined to be less than significant. Impact WQ-6 incorporates Mitigation Measure WQ-6 to limit methylmercury production in compensatory mitigation wetland

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	include management guidelines or performance standards which describe levels of reduction in impact significance that must be achieved in order for impacts to be fully and effectively mitigated. [Footnote 108: Preserve Wild Santee v. City of Santee (2012) 210 Cal.App.4th 260 (plan for active habitat management failed to describe anticipated management actions or include standards or guidelines for actions that might be taken).] Impermissible deferral of mitigation, in which an agency "simply requires a project applicant to obtain a ... report and then comply with any recommendations that may be made in the report," are inadequate and a violation of CEQA. [Footnote 109: Defend the Bay v. City of Irvine (2004) 119 Cal.App.4th 1261, 1275.] CEQA and the Delta Reform Act require that a new Delta conveyance project mitigate impacts resulting from the project. Therefore, the DEIR must not only evaluate and disclose all Project impacts that are reasonably foreseeable to result from Project construction and operation, but it must also identify the measures that commit DWR to mitigate these impacts. The DEIR does not adequately and effectively mitigate Project impacts that will affect Regional San [Sacramento Regional County Sanitation District] operations, nor does it seek to reduce Project impacts to water quality from increases in CHABs, methylmercury, and EC in Delta waters and aquatic ecosystems; impacts to Harvest Water construction, facilities, operations and ecological programs and related groundwater resources; and potential impacts due to conflicts with Regional San and SacSewer utility lines. As a result, it does not investigate or propose adequate mitigation that would	associated with the CMP. Please refer to Chapter 12, Fish and Aquatic Resources, which provides a discussion of existing resources, potential impacts on the resources, mitigation measures as applicable and reference to the CMP for additional mitigation considerations. Please refer to Appendix 3C, Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions, and Chapter 8, Groundwater, regarding the Harvest Water project. In addition, please refer to responses to comments contained within this letter 539 regarding the Harvest Water project. As described in the EIR and in other responses to comments to letter 539, physical environmental impacts related to the Harvest Water Project (e.g., groundwater, terrestrial biological sources, public services and utilities) have been appropriately accounted for in the EIR or would not occur. Please refer to response to comment 539-48 regarding coordination with utility providers. Finally, please refer to Common Response 1 regarding CEQA requirements for recirculation, none of which are met by the EIR. Therefore, the EIR does not require recirculation.

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	effectively reduce or avoid impacts for any of these impacts. The DEIR must be revised to include adequate analyses of Project impacts, as well as suggested mitigation measures that will effectively reduce impacts to levels less than significant. Finally, the DEIR must be recirculated for public comment in accordance with CEQA.	
539-51	CONCLUSION Regional San has participated in good faith in the numerous environmental review efforts related to the DCP and its predecessors. It has repeatedly urged DWR to demonstrate that a Delta conveyance project will not adversely affect Regional San's [Sacramento Regional County Sanitation District's] operations, facilities, and efforts to promote the Delta's unique community and environment. Because the DEIR again omits the information necessary to address these concerns, it must be revised to address the numerous concerns identified in these comments and associated expert reports, and recirculated for public comment in accordance with CEQA.	This is a closing paragraph to the comment letter provided. Responses to the detailed comments provided in this letter regarding the adequacy of the EIR and potential impacts on the Regional San's operations and facilities are provided herein. DWR has reviewed all comments and will consider all comments in its decision-making process.
539-52	If you have questions about these comments, or wish to consult with Regional San [Sacramento County Regional Sanitation District] on revisions to the DEIR, please contact Terrie Mitchell at (916) 876-6092.	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
539-53	[ATT 1: Fish Facilities Technical Team. Technical Memorandum 1 July 15, 2011.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.
539-54	[ATT 2:] These comments on the Draft Supplemental Environmental Impact Report/Environmental Impact Statement (DSEIR/EIS)	This comment was submitted on the Bay Delta Conservation Plan/California WaterFix project. Thus, the comment does not directly address the Delta Conveyance Project Draft EIR, and DWR is not required

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	for the Bay Delta Conservation Plan/California Water Fix project ("WaterFix" or "Project") are submitted on behalf of the Sacramento Regional County Sanitation District (Regional San) for consideration by the Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation). The Draft SEIR/EIS is flawed insofar as it relies on the faulty analysis and assumptions contained in the December 2016 Final Environmental Impact Report/Environmental Impact Statement (2016 Final EIR/EIS), DWR s certified EIR (July 2017), and other prior environmental review documents. These comments are intended to provide DWR and Reclamation with notice of these flaws, and to afford them the opportunity to rectify these errors prior to completing their review under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) and before DWR issues any further discretionary approval related to the Water Fix or Reclamation issues a Record of Decision with respect to its participation in the Waterfix project.	to respond to comments on projects that are no longer being pursued. However, DWR has reviewed the comment's content to determine whether the comment may be applicable to the proposed Delta Conveyance Project. Here, the comment is not applicable to the Delta Conveyance Project Draft EIR; therefore, no further response is provided.
539-55	[ATT 2] Regional San [Sacramento Regional County Sanitation District] incorporates herein by reference all comment letters previously submitted in connection with DWRs environmental review of the WaterFix project's previous iterations under CEQA and Reclamation's review under NEPA. As Regional San has explained in its previous comment letters, and in evidence submitted to the State Water Resources Control Board (SWRCB) in proceedings concerning the WaterFix water right change petition filed by DWR and Reclamation (Water Right Change Proceeding [Footnote 1: In these comments, Regional San relies on, and incorporates by reference, evidence submitted in the Water Right Change Proceeding as it is directly relevant to the environmental impacts of the WaterFix	This is a comment submitted on the Bay Delta Conservation Plan/California WaterFix project. Thus, the comment does not directly address the Delta Conveyance Project or the Draft EIR and DWR is not required to respond to comments on projects that are no longer being pursued. However, DWR has reviewed the comments provided by the commenter and provided responses where comments may still be applicable to the proposed Delta Conveyance Project. Here, the comment is not applicable to the Delta Conveyance Project Draft EIR; therefore, no further response is provided.

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	project. See Exhibit A, attached hereto, for a list of all incorporated evidence and the specific URLs where such evidence, including that cited in support of the specific comments and objections raised in this letter, may be downloaded.]), it's comments regarding the significant adverse impacts of the WaterFix project on the Sacramento Regional Wastewater Treatment Plant facility and operations have not been adequately addressed and both DWRs CEQA review and Reclamation's NEPA review remain legally inadequate.	
539-56	[ATT 2:] Background Regional San [Sacramento Regional County Sanitation District] provides wastewater conveyance, treatment, and disposal for approximately 1.4 million people in the urbanized area of Sacramento County and the City of West Sacramento in Yolo County [Footnote 2: Water Right Change Proceeding, Part Two Testimony of Prabhakar Somavarapu, P.E. (Nov. 30, 2017) p. 3]. The SRWTP [Sacramento Regional Wastewater Treatment Plant], owned and operated by Regional San, is one of the largest wastewater treatment plants in the State of California, employing 425 people, operating 24 hours a day, seven days per week since the 1970s and discharging an average of 133 million gallons per day over the past decade to the Sacramento River at Freeport [Footnote 3: Water Right Change Proceeding, Part Two Testimony of Ruben R. Robles. P.E. on behalf of Regional San (Nov. 30, 2017) p. 3; Water Right Change Proceeding, Part Two Testimony of Prabhakar Somavarapu, P.E. (Nov. 30, 2017) p. 2]. Discharge from SRWTP is authorized and regulated under a National Pollution Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board (RWQCB), Central Valley Region. Regional San is also in the process of constructing its Echo	Please see response to comment 539-55 regarding comments on the Bay Delta Conservation Plan/California WaterFix project. Chapter 5, Surface Water, of the Final EIR, includes an assessment of the limited duration and frequency of reverse flows on the Sacramento River, as well as the extent (measured in miles) of reverse flows when they are expected to occur. The total number of reverse flow events were analyzed using DSM2, and for each event the total flow and distance was analyzed. New figures have been added to the EIR, Chapter 5: figure titled Frequency of Duration of Reverse Flow Events and Frequency of Reverse Flow Distances and figure titled Frequency of Reverse Flow Distances, which show that there is no increase in frequency of stronger reverse flow events between existing conditions and project alternatives. These figures demonstrate that there is no change in the frequency and duration of reverse flow events at a distance of 0.8 mile from the Sacramento Regional Wastewater Treatment Plant outfall. The inclusion of the information in Chapter 5 does not result in a new significant environmental impact or substantially increase the severity of an environmental impact or require additional mitigation measures to which DWR was unwilling to commit. Furthermore, as described in Chapter 3, Description of the Proposed Project and Alternatives, operation of the project includes sweeping velocity requirements which limit the diversions to times when velocity at

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	Water project, a nearly $2 billion investment that will produce disinfected tertiary treated water suitable for recycling and reuse for a broad range of beneficial uses [Footnote 4: Water Right Change Proceeding, Part Two Testimony of Ruben R. Robles. P.E. on behalf of Regional San (Nov. 30, 2017) p. 13; Water Right Change Proceeding, Part Two Testimony of Prabhakar Somavarapu, P.E. (Nov. 30, 2017) p. 5]. The three WaterFix intakes are proposed to be located downstream of the SRWTP discharge of treated wastewater, and about one mile downstream of the edge of the existing harmonic mean flow-based human health mixing zone provided in the SRWTP NPDE permit [Footnote 5: Water Right Change Proceeding, Map of Water Fix Diversion Structure Location Alternatives in the Vicinity of SRWTP (Mar. 23, 2018); Water Right Change Proceeding, Part Two Testimony of Thomas Grovhoug, P.E. on behalf of Regional San (Now. 30, 2017) p.6]. The NPDES permit requires SRWTP treated effluent to be diverted to emergency storage basins, rather than being discharged, when the river-to-effluent ratio is 14:1 [Footnote 6: Water Right Change Proceeding, Part Two Testimony of Ruben R. Robles. P.E. on behalf of Regional San (Nov. 30, 2017) p. 4; Water Right Change Proceeding, Part Two Testimony of Prabhakar Somavarapu, P.E. (Nov. 30, 2017) p. 4-5]. These types of diversions typically occur when the Sacramento River flows are low and the tide is high; under this combination of factors, the Sacramento River flow at Freeport can reverse direction, temporarily flowing upstream. [Footnote 7: Ibid.]	the north Delta intakes is in the downstream to direction at 0.4 feet per second. This sweeping velocity requirement would minimize changes in reverse flows. As discussed in Chapter 21, Public Services and Utilities, no impacts on water supply or wastewater treatment attributable to reverse flows would occur under the Delta Conveyance Project.
539-57	[ATT 2:] Substantial Evidence Shows that WaterFix Will Have Significant Impacts to Regional San's [Sacramento Regional County Sanitation District] Facilities and Operations that Were Not	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant.

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	Disclosed in the 2016 Final EIR/EIS o DSEIR/EIS A. Impacts From Increased Frequency and Duration of Sacramento River Reverse Flow Events In comments on the DEIR/EIS, RDEIRIEIS, and 2016 Final EIR/EIS, Regional San raised concerns about the potential for the WaterFix project to adversely affect operations of the SRWTP through changes in water quality and the frequency and duration of reverse flow events. However, DWR and Reclamation ignored concerns Regional San has identified since the infancy of the Project, and these problems have not been addressed in any of the Project's environmental documents. Although it is difficult to identify all potential Project impacts on Regional San's operations – because of a lack of sufficient detail about the operation of the Project and related facilities [Footnote 8: Concerns about the lack of detail regarding Project operations have been raised by many parties commenting on the various iterations of the WaterFix CEQA and NEPA documents, as well as in evidence submitted in the Water Right Change Proceeding.] -- Regional San has presented specific concerns and evidence regarding the potential impacts of the Project and its predecessor the Bay Delta Conservation Plan on the operations of SRWTP. These concerns include changes in water quality and the number and duration of low-flow and reverse flow periods in the Sacramento River [Footnote 9: Water Right Change Proceeding, Part Two Testimony of Ruben R. Robles, P.E. on behalf of Regional San (Nov. 30, 2017) pp. 4-5; Water Right Change Proceeding, Part Two Testimony of Susan Paulsen, Ph.D., P.E. on behalf of Regional San (Nov. 29, 2017) pp. 3-4; Water Right Change	Please see Common Response 3, Alternatives Development and Description, for details regarding project operations and operational criteria descriptions, such as how the project would be operated to shift diversions from the south Delta to the north Delta (during the summer and fall) or divert water in the north Delta during excess flow conditions while meeting regulatory requirements (during the winter and spring). The analyses provided in the EIR Chapters 7–32 evaluate the potential impacts of the proposed operations for all alternatives. A complete description of the hydrologic modeling undertaken for the Delta Conveyance Project environmental analysis is provided in Appendix 5A, Modeling Technical Appendix, which describes the potential changes in Delta flows. Chapter 5, Surface Water, presents analysis of changes in Sacramento River basin river flow rates. In addition, Chapter 9, Water Quality, and Common Response 10, Surface Water Quality and Groundwater Resources, describe the methodology and analytical approaches to evaluate water quality impacts on designated beneficial uses (e.g., drinking water) in the Delta. As described in Chapter 9, all potential impacts analyzed would result in less-than-significant impacts. The State of California (State Water Resources Control Board), with oversight/input from the EPA, regulates water quality through the establishment of water quality standards. Water quality standards include: (1) the designated beneficial uses of waterbodies, (2) adopted water quality objectives/criteria that when met will achieve water quality that is protective of the designated beneficial uses, and (3) an Antidegradation Policy. The latter provides the state with the ability to regulate (i.e., limit) the degradation of high-quality waters when water quality objectives and criteria are being met. The approach to assessing water quality impacts in Chapter 9 is reflective of the State's approach to regulating water quality described above. Specifically, the assessments evaluate how project

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	Proceeding Exponent Report on Impacts of the California WaterFix Project Affecting Sacramento Regional County Sanitation District, Nov. 30, 2017,Appx. B.]	operations would alter water quality, and then evaluate whether such changes to water quality would, or would not, impact the designated beneficial uses of waterbodies. Regional San's operations of its Sacramento Regional Wastewater Treatment Plant to dispose of effluent into the Sacramento River does not constitute a designated beneficial use of the Sacramento River and, therefore, was not assessed in Chapter 9.
539-58	[ATT 2:] Because DWR and Reclamation refused to conduct the required analysis of reverse flow impacts identified in Regional San's [Sacramento Regional County Sanitation District] numerous comment letters on the various draft Project EIRs, Regional San was forced to conduct its own analysis, which it presented in the Water Right Change Proceeding. This analysis shows that Project operations will alter the conditions of the Sacramento River at Freeport, such that Regional San will need to divert effluent to emergency storage basins for longer durations and in larger quantities that under existing conditions or the future No Action scenario presented in the 2016 Final EIR/EIS [Footnote 10: Water Right Change Proceeding, Part Two Testimony of Ruben R. Robles. P.E. on behalf of Regional San (Nov. 30, 2017) p. 8; Water Right Change Proceeding, Part Two Testimony of Susan Paulsen, P.E. on behalf of Regional San (Nov. 29, 2017) p. 4; Water Right Change Proceeding, Exponent Report on Impacts of the California WaterFix Project Affecting Regional San, Now. 30, 2017, p.2; Water Right Change Proceeding, Part Two Rebuttal Testimony of Susan Paulsen, Ph.D, P.E., (July 9, 2018) p.2]. Increased diversions of effluent to storage have significant economic impacts and reduce operational flexibility [Footnote 11: Water Right Change Proceeding, Part Two Testimony of Ruben R. Robles. P.E. on behalf of Regional San (Nov. 30, 2017) pp. 10-11; Water Right Change Proceeding, Part Two	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please also see response to comment 539-57 regarding Delta Conveyance Project operations.

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	Testimony of Prabhakar Somavarapu, P.E. (Nov., 30, 2017) p. 6]. Essentially, every time the Project causes river conditions that necessitate a diversion greater than would occur in the baseline condition, Regional San is forced to commit its facilities to correcting conditions created by the Project in order to meet its NPDES permit obligations, thereby reducing Regional San's operational flexibility and creating unknown risks to Regional San's operations [Footnote 12: Water Right Change Proceeding, Part Two Testimony of Ruben R. Robles, P.E. on behalf of Regional San (Nov. 30, 2017) pp. 10-11; Water Right Change Proceeding, Part Two Testimony of Prabhakar Somavarapu, P.E. (Nov. 30, 2017) p.6]. Replacing the emergency storage basin capacity consumed by the WaterFix operations would result in the potential for new significant environmental impacts from construction, which have not been acknowledged in any of the Projects environmental documents. Regional San provides the enclosed expert report from Dr. Susan Paulsen and Dr. Aaron Meade of Exponent. (Exponent, Report re: DWR's commitment to Regional San fails to address the impacts to SRWTP operations, Oct 15, 2018 (Exponent Report) attached as Exhibit B [Attachment 2 of Attachment 2]. The Exponent Report rebuts claims made by DWR in the Water Right Change Proceeding that Regional San has overstated Project impacts to its operations and explains why DWR's testimony in the proceeding regarding Project impacts to Regional San's operations is fundamentally flawed and lacking in evidentiary support. The Exponent Report also addresses DWR's "commitment" (included in an appendix to the 2016 Final EIR/EIS) to address the concerns raised by Regional San by establishing an operational protocol for the Project intakes. It is	

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	unclear whether DWR's "commitment" – which, notably is not characterized as an environmental commitment nor included in the Project Mitigation Monitoring Program adopted by DWR in July 2017 – es even feasible because it appears to rely on assumptions that are either flawed or unsubstantiated, or both.	
539-59	[ATT 2:] DWR failed to consult with Regional San regarding feasible means of avoiding impacts to its operations, and its witnesses in the Water Right Change Proceeding were unable to identify any mitigation measure or operating protocol to monitor reverse flows in the area around Regional San's facilities, or any protocol that would modify operations at the Project's North Delta diversion in response to any such monitoring results [Footnote 13: Water Right Change Proceedings, Transcript of Hearing Part 2, Feb. 26, 2018, pp. 125; 15 – 132.22.]. There is no evidence in the record to demonstrate that DWR's proposed operations protocol to ensure Regional San operations remain consistent with the SRWTP's [Sacramento Regional Wastewater Treatment Plant] capabilities is feasible. Impacts to Regional San's diversion operations are driven by hourly river flow rates at Freeport. DWR cannot alter two of the three factors influencing river flows at Freeport – tidal forcing and natural hydrology – and DWR's commitment does not propose to modify the primary controllable factors capable of influencing Regional San's discharge operations – releases from State Water Project and Central Valley Project reservoirs upstream of Freeport [Footnote 14: Exponent Report at pp.2, 4]. DWR and Reclamation have stated repeatedly in the Water Right Change Proceeding that the Project does not modify upstream reservoir operating criteria. In fact, no DWR witness testifying	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please also see response to comment 539-57 regarding Delta Conveyance Project operations. DWR is committed to working with all interested parties. Please see Chapter 6, Water Supply, regarding changes to water supply. In addition, please see Common Response 3, Alternatives Development and Description, regarding Delta Conveyance Project proposed operations, which do not include modifications to State Water Project reservoir operations upstream of the project. DWR would not increase storage withdrawal for exports, except flood releases, even though the proposed Delta Conveyance Project may provide additional diversion capacity. The project would not include modifications to Central Valley Project reservoir operations upstream of the project because Reclamation is not a participant in the project. The impact analysis contained in Chapter 12, Fish and Aquatic Resources, evaluates the proposed operational scenarios of the alternatives evaluated in the EIR for the Delta Conveyance Project and identifies either less-than-significant impacts, or impacts that can be mitigated to a level of less than significant regarding the effects of flows on species in the Delta.

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	about WaterFix impacts before the SWCRB was able to answer any questions about how DWR's proferred commitment might work [Footnote 15: Water Right Change Proceedings, Transcript of Hearing Part 2, Feb. 26, 2018, pp. 125.15 – 132.22]. As such, there is no assurance that Regional San's operations will not be significantly impacts. Further, it is reasonable to assume that modifying operations of upstream reservoirs likely would result in impacts to upstream storage, which could impact water supplies, as well as the availability of cold water for fish. DWR and Reclamation failed to consider these impacts, which further undermine the feasibility of DWR's commitment. DWR's commitment is based on flawed assumptions regarding Regional San's operations and unsubstantiated assumptions regarding feasibility, and thus, it does not constitute substantial evidence.	
539-60	[ATT 2:] Additionally, DWR's analysis of impacts to Regional San's [Sacramento Regional County Wastewater District] operations is fundamentally flawed. The record shows that DWR's evaluation of the Project's effect on effluent diversions to emergency storage basins was incorrectly based on treatment plant inflows [Footnote 16: Water Right Change Proceedings, Transcript of Hearing Part 2 Rebuttal, Aug. 9, 2018, pp. 189.15 – 195.20; see also id. At pp. 187:11 –189:12 [DWR witness Dr. Chandra Sekhar (Chandra) Chilmakuri did not consider the evidence provided by Regional San regarding its operations]]. An accurate assessment of the frequency and duration of Regional San's effluent diversion must properly account for discharges of effluent, which DWR's simulations failed to do [Footnote 17: Exponent Report at pp. 7-10]. Because DWR's analysis of impacts to SRWTP [Sacram is also based on inaccurate information that renders the conclusions	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant.

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	meaningless, it also does not constitute substantial evidence.	
539-61	[ATT 2:] Finally, DWR concluded that Project impacts to Regional San's [Sacramento Regional County Sanitation District] operations would be minor and minimal -- inaccurately characterizing the effect as a 2 percent change in diversion events at the SRWTP under Project conditions from the baseline scenario [Footnote 18: Water Right Change Proceeding, Testimony of Dr. Chilmalori on behalf of DWR (DWR-1217), July 10, 2018, pp. 21-22]. However, the characterization of a 2 percent change is incorrect; although correctly relying on Regional San's expert data, DWR's witness miscalculated the percent increase in diversion events due to the Project, which is actually 17 percent [Footnote 19: -- refer to document, page 142]. This prejudicial error led DWR to improperly discount the WaterFix impact to Regional San, which includes coopting $6.8 million in capital investments and adding $150,000 in annual maintenance costs under Project conditions. These impacts to the SRWTP and Regional San's ratepayers are not minor; along with the operational challenges posed by increased duration and frequency of diversion events, and loss of emergency storage basin capacity, they constitute substantial evidence of the WaterFix's significant adverse impacts.	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant.
539-62	[ATT 2:] B. Impacts from Locating WaterFix Intakes Downstream of SRWTP Discharge The diversion structures for the Project have been characterized by DWR and the SWRCB [State Water Resources Control Board] as "drinking water intakes." [Footnote 20: refer to comment 63] If such a characterization were accepted by the RWQCB [Regional Water Quality Control Board], it could result in substantial additional capital costs and NPDES	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding the Sacramento Regional Wastewater Treatment Plant. Please also refer to response to comment 539-57 regarding the water quality and surface water analyses in the EIR.

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	[National Pollution Discharge Elimination System] permit compliance challenges [Footnote 21: refer to comment 64]. Notably, it could lead to the loss of the SRWTP human health mixing zone for the calculation of trihalomethane (THM) effluent limitations. Human health criteria are: generally based on long term exposure, and the RWQCB evaluates if the mixing zone meets the requirements of the State Implementation Plan and the Basin Plan requirements to ensure protection of beneficial uses [Footnote 22: Order R5-2016-0020-01 NPDES No. CA0077682 Waste Discharge Requirements for the Sacramento Regional County Sanitation District Sacramento Regional Wastewater Treatment Plan Sacramento County, accessible at https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/sacramento/r5-2016-0020-01.pdf]. Due to the location of diversion structures within or near the edge of the current mixing zone, the RWQCB may disallow the mixing zone, requiring Regional San to meet end of pipe THM effluent limitations. This is a very important issue to the successful operation of the SRWTP. Regional San is engaged in a nearly $2 billion effort to design and construct capital facilities required to comply with its existing permit conditions [Footnote 23: Water Right Change Proceeding, Part Two Testimony of Ruben R. Robles, P.E. on behalf of Regional San (Nov. 30, 2017) p. 13; Water Right Change Proceeding, Part Two Testimony of Prabhakar Somavarapu, P.E. (Nov. 30, 2017) p. 5; Water Right Change Proceeding, Part Two Testimony of Thomas Grovhoug, P.E. (Nov. 30, 2017) pp. 6-8, 10.]. If the current dilution credit for THMs were eliminated due to concerns regarding the short distance between the edge of the mixing zone and the diversion structures, Regional San could not reliably meet the resulting effluent limitations and would be compelled to cease	

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	operation of its new EchoWater project chlorine disinfection facilities. In lieu of use of chlorine disinfection, Regional San would be forced to construct an alternative disinfection system to meet the THM effluent limitations and Title 22 equivalent requirements in its NPDES permit, as significant cost [Footnote 24: Water Right Change Proceeding, Part Two Testimony of Thomas Grovhoug, P.E. (Nov. 30, 2017) pp. 4-5]. Implementing additional treatment processes at SRWTP would burden Regional San ratepayers with additional capital and operational costs of approximately $400 million [Footnote 25: Water Right Change Proceeding, Part Two Testimony of Thomas Grovhoug, P.E. (Nov. 30, 2017) p. 7.]. The environmental impacts from constructing an alternative disinfection system have not been evaluated or disclosed in any of the WaterFix environmental documents.	
539-63	[ATT 2:] [Footnote] 20: Regional San [Sacramento Regional County Sanitation District] disputes that the intakes are properly considered "drinking water intakes", but there is reasonable concern that the proposed diversion structures may be mistakenly characterized as such. During the Water Right Change Proceeding, when asked whether the proposed Project intakes are drinking water intakes, Dr. Chilmakuri replied under oath, "That could be one of the uses, yes." (Water Right Changes Proceeding, Part Two Transcript of Hearing Part 2 Rebuttal, Aug. 9, 2018, at p. 207:12-15, cross examination of Dr. Chandra Chilmakuri, available at http:///www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/docs/transcripts/2018/20180809_rt_cwfpethearing_final.pdf [as of Nov. 1, 2018.] Additionally, the SWRCB characterized the proposed diversion structures as "drinking water intakes" in its Order WQ 2012-	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Intakes are referred to in the EIR as “north Delta intakes.” All alternatives would divert water and convey it through a single main tunnel. Water conveyed via the Delta Conveyance Project would be used by State Water Project users. DWR does not propose any changes to the purpose of use. Please see Common Response 3, Alternatives Development and Description, regarding intake locations and descriptions.

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	0013, referencing statements made in a November 2010 progress report on the Bay Delta Conservation Plan. (State Water Board Order WQ 2012-0013, In the Matter of Own Motion Review of Waste Discharge Requirements Order No. R5-2010-0114 (NPDES No. CA0077682) for Sacramento Regional Wastewater Treatment Plant, Dec. 12, 2012, p. 11("[T]here are five drinking water intakes proposed between Freeport and Courtland, near the [Sacramento River] outfall.") Available at https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0013.pdf [AS of Nov. 1, 2018]	
539-64	[ATT 2:] [Footnote] 21: Project proponents and users of water exported from the Delta have a history of commenting on the NPDES permit and wastewater facility EIR documents prepared by Regional San and other Central Valley publicly owned treatment works (POTWs). They have consistently asked for increasing levels of treatment by Regional San and by other municipalities in the Central Valley (e.g., Stockton, Modesto, Turlock, etc.). State Water Contractors and numerous other export water users submitted comments on the EchoWater project EIR. In those comments, they advocated for additional removal of nutrients and salinity, above and beyond the capability of the EchoWater Project. Thus, it is entirely foreseeable that placing the Project diversion structures within the vicinity of the SRWTP discharge to the Sacramento River will result in intensification of such requests by WaterFix proponents and others. (Water Right Change Proceeding, Part Two Testimony of Thomas Grovhoug, P.E. (Nov. 30, 2017) pp. 6-8, 10.)	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Here, the comment is not applicable to the Delta Conveyance Project Draft EIR; therefore, no further response is provided.

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539-65	[ATT 2] The Project Is Inconsistent with the Delta Plan The Delta Plan contains policies, recommendations, and performance measures designed to protect the Delta environment and existing Delta land uses from the impacts of major new projects, including the WaterFix. The Delta Reform Act requires that projects within the boundaries of the Delta that will significantly impact the achievement of the statutorily-established coequal goals for protection of the Delta and provision of a reliable water supply demonstrate consistency with the coequal goals and each of the regulatory polices contained in the Delta Plan before the project may be implemented. (Wat. Code, §§ 85054, 85057.5, 85225; Cal. Code Regs., tit. 23, § 5002, subd. (b)(l). The Delta Plan also contains priority recommendations that identify actions "essential to achieving the coequal goals" (Delta Plan, p. ES-17) and performance measures related to meeting the Plan goals and policies. (Delta Plan, Appendix E: Performance Measures for the Delta Plan, as amended Apr. 26, 2018.) Regional San [Sacramento Regional County Sanitation District] has worked with the Delta Stewardship Council since 2009, in the development of the Delta Plan, Delta Science Plan, and Delta Independent Science Board work products. Regional San is very committed to the health of the Delta ecosystem and has invested substantial resources to help produce a Delta Plan that serves the coequal goals of the Delta ecosystem. Regional San's South Sacramento County Agricultural and Habitat Lands Recycled Water Program (South County Ag Program) is included in the Delta Plan as an example project that demonstrates innovative in-lieu groundwater recharge that will	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please refer to Appendix 3E, Delta Reform Act Considerations, and Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, for a discussion of the requirements of the Delta Reform Act, co-equal goals, and the Delta Plan.

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	help restore and enhance the Delta ecosystem, and also will be capable of providing recycled water supplies for multiple uses, consistent with the coequal goals. Project impacts to Regional San's treatment facilities and operations, described above [comments 54-69], would present a substantial obstacle to Regional San's ongoing efforts to further the coequal goals and are inconsistent with specific Delta Plan policies and the coequal goals themselves. Specifically, the Project is not consistent with Delta Plan Policy DP P2 (Cal. Code Regs., tit. 23, § 5011), which requires that water management facilities be sited so as to avoid or reduce conflicts with existing uses, due to DWR's decision to locate the Project intakes directly downstream of the SRWTP [Sacramento Regional Wastewater Treatment Plant]. The potential for increased regulatory requirements and burdensome and costly modifications to Regional San's facilities and operations create direct conflicts with the existing SRWTP use, and Regional San's evidence discussed and cited in this letter [comments 54-69] demonstrates that the WaterFix is inconsistent with DP P2 [Footnote 26: See Water Right Change Proceeding, Part Two Testimony of Thomas Grovhoug, P.E. (Nov. 30, 2017) pp. 4-5]. There is no evidence in the record that it was infeasible to have sited the Project intakes in locations that would avoid impacts to Regional San's operations, and no evidence that the impacts to Regional San from the Project can be mitigated	
539-66	[ATT 2:] [Footnote] 27: In July 2018, DWR certified that the Project is consistent with this policy on the grounds that DWR has avoided or reduced conflicted to the extent feasible. As discussed above [comment 66] there is no evidence that	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please also refer to response to comment 539-65 regarding the Delta Plan. Please

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	WaterFix conflicts with the SRWTP, an existing use within the meaning of DP P2, have been avoided or reduced. Moreover, because some of the most significant impacts of the Project on Regional San relate to impacts from reverse flows, even if feasible mitigation could be identified, the mitigation itself could result in additional impacts to the environment and upstream water supplies if, for example, it required additional releases from upstream reservoirs. None of these potential impacts have ever been addressed by the DWR or Reclamation. DWR has asserted that intake locations were identified based on their ability to protect listed fish species, but these assertions are undermined by testimony in Water Fish Charge Proceeding of DWR's own experts, who testified that the intakes will not be "reasonably protective" of endangered fish species. (See Water Right Change Proceeding, Transcript of Hearing Part 2, March 2, 2018, at p. 39:17-19: DWR's own expert DR. Marin Greenwood admitted on cross-examination that his testimony states that predation losses at the WaterFix intakes have been estimated as high as 12% of the winter-run Chinook juveniles salmon population, and that level of predation losses would not be reasonably protective of winter-run salmon.	also refer to response to comment 539-59 regarding project operations, which do not include changes to operational criteria associated with upstream reservoirs, and see the impact analysis contained in Chapter 12, Fish and Aquatic Resources.
539-67	[ATT 2:] If the RWQCB [Regional Water Quality Control Board] treats the diversion structures as drinking water intakes, it would result in substantial capital costs to Regional San's ratepayers, would significantly impair Regional San's ability to comply with its existing NPDES [National Pollution Discharge Elimination System] Permit, and would have resounding regional impacts due to decreased reliability of Regional San's operations [Footnote 28]. DWR's assertion that the diversion structures are drinking water intakes, in addition to the misstatement by	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please also refer to response to comment 539-65 regarding the Delta Plan. Please see response to comment 539-63 regarding the purpose and use for State Water Project water supplies.

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	the SWRCB, provides uncertainty and creates concern that Regional San's existing operations will be disrupted and its ratepayers burdened by the Project's unmitigated impacts, which further demonstrates that locating the intakes downstream of the SRWTP [Sacramento Regional Wastewater Treatment Plant] is inconsistent with Policy DP P2. Moreover, additional costs burdening Regional San and its ratepayers necessarily reduce Regional San's ability to fund additional projects that may further the coequal goals stated in the Delta Plan, such as water recycling projects.	
539-68	[ATT 2:] The Significant Impacts to the SRWTP and Its Operations Require Additional Analysis of Alternatives CEQA requires that DWR consider alternatives to the WaterFix capable of avoiding or substantially lessening its significant impacts. NEPA requires that Reclamation "'rigorously explore and objectively evaluate all reasonable alternatives'" to a proposed plan of action that has significant environmental effects. [Footnote 29: NRDC v. USFS, 421 F.3d 797, 813 (9th Cir. 2005) (citing 40 C.F.R. § 1502.14(a)).]" In this analysis (which is the "heart" of an EIS), it must "[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits."[Footnote 30: 40 C.F.R. §1502.14(a), 9B).] Neither DWR nor Reclamation have considered any alternative that would reduce the significant impacts to the SRWTP [Sacramento Regional Wastewater Treatment Facility] facility and operations, and this the 2016 Final EIR/EIS, DWR's certified EIR, and DWEIR/DEIS are inadequate under both CEQA and NEPA.	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please refer to Appendix 3A, Identification of Water Conveyance Alternatives, and Common Response 3, Alternatives Development and Description, regarding the alternatives screening process and the range and scope of alternatives considered in the EIR.

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539-69	[ATT 2:] Conclusion Substantial evidence, the form of expert testimony and analysis discussed in and submitted with these comments, demonstrates that the WaterFix project would result in significant unmitigated impacts to the SRWTP [Sacramento Regional Wastewater Treatment Plant] operations and facilities that will result in millions of dollars in additional costs to Regional San's [Sacramento Regional County Sanitation District] ratepayer's, as well as the need for construction of new facilities, which have the potential to result in significant environmental impacts. There is no evidence that the actions proposed by DWR to minimize impacts from reverse flows is feasible, and it has the potential to result in additional significant impacts. DWR and Reclamation have failed to evaluate or mitigate these impacts. CEQA and NEPA require that DWR and Reclamation consider the significant new information submitted by Regional San with these comments showing substantial adverse impacts to the SR WTP facility and operations, and inconsistencies with the Delta Plan, and disclose it in a recirculated draft EIR/EIS before proceeding with DWR's next approval of the WaterFix project or any Record of Decision by Reclamation.	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions. Please also refer to response to comment 539-65 regarding the Delta Plan.
539-70	[Attachment 1 of Attachment 2: Document titled "Evidence submitted in the Water Right Change Proceeding on behalf of Regional San regarding environmental impacts of the WaterFix project."]	This attachment was submitted on the Bay Delta Conservation Plan/California WaterFix project. Thus, the attachment does not directly address the Delta Conveyance Project Draft EIR and DWR is not required to respond to comments on projects that are no longer being pursued. However, DWR has reviewed the attachment's content to determine whether the attachment may be applicable to the proposed Delta Conveyance Project. Here, the attachment is not applicable to the Delta Conveyance Project Draft EIR; therefore, no further response is provided.

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539-71	[ATT 2 of ATT 2] Summary Throughout the environmental documentation and water right petition proceedings for the California WaterFix project (CWF), Sacramento Regional County Sanitation District (Regional San) submitted testimony and comments raising concerns that CWF would negatively affect the operations of Regional San's Sacramento Regional Wastewater Treatment Plant (SRWTP). The SRWTP discharges treated effluent to the Sacramento River near Freeport. At this location, the river is subject to tidal influence; thus, during periods of low river flow and high tides, river flows drop and sometimes reverse direction, flowing upstream. When river flows in the downstream direction drop below a certain level (14 times the SRWTP effluent discharge rate, the "14:1 requirement"), Regional San's National Pollutant Discharge Elimination System (NPDES) permit requires it to divert effluent to on-site emergency storage basins (ESBs) until river flows return to sufficient levels and discharges to the river can resume. In light of this operational constraint, Regional San was concerned that CWF would reduce river flow rates at Freeport during certain periods, requiring diversions to ESBs that are longer, larger in volume, and more frequent than under existing conditions. California Department of Water Resources (DWR) has responded to Regional San's concern in two ways. First, DWR committed to developing an operational protocol for the CWF intakes that it claimed would reduce impacts to SRWTP operations. Second, DWR rebutted Regional San's analysis of expected impacts to SRWTP operations, producing an alternative analysis and claiming that impacts would be "minor" and "minimal."	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions.

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539-72	DWR's Commitment to Regional San There are several problems with DWR's "commitment" to produce an operational protocol for the CWF intakes. First, it is not clear that such a protocol is feasible. SRWTP [Sacramento Regional Wastewater Treatment Plant] discharge operations are affected primarily by tidal forcing, natural hydrology, and upstream CVP/SWP reservoir releases that govern river flow rates at Freeport. As part of the WaterFix project, DWR has modeled both CVP/SWP system operations that determine river flows at Freeport as well as NDI [North Delta Intake] diversion operations. However, DWR's commitment does not appear to involve modifying CVP/SWP operations upstream of Freeport -- and certainly does not involve modifying tidal forcing or natural hydrology. Thus, DWR's commitment does not appear to involve modifications to the primary factors that influence SRWTP discharge operations. Instead, the commitment focuses on modifying operations of the CWF North Delta Intakes (NDI). However, since the NDI are downstream of Freeport, it is not clear how modifying their operations would affect river flows at Freeport or SRWTP diversions in a significant way. Moreover, DWR has not explained (even conceptually) what its proposed operational protocol for the NDI would be. Thus, DWR's assurance that Regional San's [Sacramento Regional County Sanitation District] operations will not be significantly impacted by CWF appears to be unsubstantiated.	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 and response to comment 539-59 regarding project operations, which do not include changes to operational criteria associated with upstream reservoirs, as well as project operational criteria descriptions.
539-73	[ATT 2 of ATT 2:] Second, DWR's commitment seems to assume that as long as increased diversions caused by CWF do not exceed Regional San's [Sacramento Regional County Sanitation District] existing ESB [emergency storage basin] capacity, then CWF will not impact SRWTP [Sacramento Regional Wastewater Treatment	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please also see response to comment 539-57 regarding project operations and operational criteria descriptions, and the water quality analysis in the EIR.

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	Plant] operations. However, this assumption is incorrect. Any portion of SRWTP's ESB capacity that must be used to accommodate increased diversions caused by CWF reduces SRWTP's operational flexibility and ability to accommodate future plant flow increases, effectively consuming a portion of Regional San's infrastructure investment in ESBs.	
539-74	[ATT 2 of ATT 2:] DWR's Rebuttal of Regional San's [Sacramento Regional County Sanitation District] Impact Analysis DWR's rebuttal of Regional San's impact analysis is also problematic. In its rebuttal, DWR claimed that Regional San used an SRWTP [Sacramento Regional Wastewater Treatment Plant] flow rate (an average dry weather flow rate [ADWF] of 181 million gallons per day [mgd]) that was too high, and thereby exaggerated the impacts of CWF. DWR suggested that Regional San should have used a lower flow rate more representative of existing plant flow conditions. However, Regional San's use of the higher flow rate is appropriate. The NPDES [National Pollution Discharge Elimination System] permit for the SRWTP allows for an ADWF flow rate of 181 mgd, and that flow represents the future operating scenario of the plant. Moreover, DWR is incorrect in claiming that use of the 181 mgd flow rate overstates impacts to SRWTP operations. SRWTP diversions to ESBs are primarily a function of Sacramento River flow rates at Freeport. Since the SRWTP flow rate does not significantly affect river flow rates at Freeport, use of a different SRWTP flow rate would not significantly affect the frequency and duration of diversion events. For example, during reverse flow events at Freeport, all SRWTP effluent flow is diverted to ESBs, whether the SRWTP flow rate is low or high.	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions.

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539-75	[ATT 2 of ATT 2:] Additionally, DWR's independent analysis of CWF impacts to SRWTP [Sacramento Regional Wastewater Treatment Plant] operations is fundamentally flawed. The 14:1 river flow threshold at which effluent must be diverted to ESBs [emergency storage basin] is continuously changing since SRWTP flow rates continuously change - both seasonally and over the course of a day. Therefore, SRWTP diversions (and impacts to diversions) must be simulated on a continuous, hour-by-hour basis. Regional San took this approach in its impact analysis. However, DWR did not. Therefore, DWR's analysis of CWF impacts to SRWTP operations was inaccurate. DWR's analysis was also incorrectly based upon inflows to SRWTP rather than effluent flows from SRWTP. Effluent flows are the flows regulated by the 14:1 requirement, not inflows, and simulations based only on inflows fail to account for the discharge of treated effluent previously diverted to the ESBs.	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions, and regarding the surface water analysis in the EIR.
539-76	[ATT 2 of ATT 2:] Finally, DWR's claim that CWF impacts to SRWTP [Sacramento Regional Wastewater Treatment Plant] operations would be "minor" and "minimal" is misguided. The claim is based on an erroneous calculation of the percentage by which effluent diversion frequency would change under CWF, and it appears to disregard the loss of $6.8 million in capital investments and $150,000 annual maintenance costs that will be caused by the CWF. Additional details of our analysis are provided below. [See comments 77 to 89]	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant.
539-77	[ATT 2 of ATT 2:] Background During the development of draft environmental documentation (DEIR/EIS) for CWF, Regional San [Sacramento	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant.

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	Regional County Sanitation District] submitted comments to the project proponents (DWR and the U.S. Bureau of Reclamation [USBR]) raising the concern that CWF might negatively affect Regional San's operation of the SRWTP. According to the terms of its NPDES [National Pollution Discharge Elimination District] permit, SRWTP [Sacramento Regional Wastewater Treatment Plant] is required to cease discharging and divert effluent to ESBs when Sacramento River flow rates at Freeport drop below a 14:1 river-to-effluent flow ratio. Regional San was concerned that CWF would reduce flow rates at Freeport during certain periods, thereby requiring Regional San to cease discharging and store treated SRWTP effluent in ESBs more frequently and for longer periods than under existing and future no-project conditions (Exponent 2017a). Exponent (2017a) noted that the modeling performed by DWR in support of the CWF DEIR/EIS did not include detailed modeling used by DWR in the Water Right Petition proceeding before the State Water Resources Control Board (SWRCB)—most notably modelling of the Boundary 1 and Boundary 2 scenarios, which were described by DWR as representing the range of possible project operations. [Footnote 1: "The boundary analysis will provide a broad range of operational criteria and the initial operating criteria will fall within this range. These boundaries are sufficiently broad as to assure the State Water Board that any operations considered within this change petition proceeding have been evaluated with regard to effects on legal users of water." (DWR-51, p.10:4-14)] Exponent (2017a) also noted that DWR's model analyses in the EIR/EIS were insufficient to conclude whether there would be operational impacts on SRWTP operations, both because DWR	Please see response to comment 539-57 regarding project operations and operational criteria descriptions, and regarding the hydrologic modeling and surface water analysis in the EIR. Additionally, please see Common Response 9, Hydrologic Modeling and Approach, regarding the modeled representation of operational criteria and model limitations.

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	did not evaluate hourly flow rates in the Sacramento River at Freeport and hourly SRWTP operations and because DWR did not evaluate the full range of expected project operations.	
539-78	[ATT 2 of ATT 2:] In the CWF final environmental documentation (FEIR/EIS), DWR addressed Regional San's Sacramento Regional County Sanitation District] comments by including among their non-environmental "Other Commitments" a commitment to develop operations protocols for the proposed North Delta Intake (NDI) that would reduce impacts to SRWTP [Sacramento Regional Wastewater Treatment Plant] operations (DWR and USBR 2016, Appendix 3B, Section 3.6, p. 3B-81). However, DWR did not explain what these operations protocols might actually be.	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions.
539-79	[ATT 2 of ATT 2:] During the CWF Part 2 hearing process before the State Water Resources Control Board (State Board), DWR released additional DSM2 modeling files describing the proposed WaterFix project (i.e., Scenario CWF H3+). Regional San [Sacramento Regional County Sanitation District] submitted written and oral expert testimony presenting a detailed quantitative modeling analysis of potential CWF impacts to SRWTP [Sacramento Regional Wastewater Treatment District] operations based on the newly released DSM2 modeling files (Exponent 2017b; Exponent 2018; Flow Science Incorporated 2018). This expert testimony confirmed Regional San's prior concern that CWF would reduce flow rates in the Sacramento River at Freeport during certain periods, thereby requiring Regional San to cease discharging and store treated SRWTP effluent in ESBs more frequently, for longer periods, and in greater volumes than under existing and future no-project conditions.	Please see response to comment 539-56 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions, which differs from the operations proposed for California WaterFix. Please also refer to response to comment 539-57 regarding the surface water analysis in the EIR.

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	In response to Regional San's expert testimony, DWR submitted written and oral rebuttal testimony (DWR 2018). DWR's testimony raised several purported problems with Regional San's expert testimony and asserted that CWF impacts to Regional San's operations would be "minor" and "minimal" (DWR 2018, p. 21, 22). DWR supported its claims with an independent analysis of CWF impacts to SRWTP operations. In this technical memorandum, Exponent offers a technical evaluation of DWR's rebuttal testimony and DWR's commitment to develop CWF operations protocols favorable to SRWTP operations.	
539-80	[ATT 2 of ATT 2:] DWR's Commitment to Regional San [Sacramento Regional County Sanitation District] DWR stated its commitment to develop an operations protocol for the NDI as follows: Under this commitment, in consideration of tides and river flows, DWR, in consultation with Regional San, will develop a rule curve and/or operating protocols for the North Delta Intake diversions that will account for peak flow periods within the tidal fluctuations of the Sacramento River to ensure that Regional San operations will remain consistent with facility storage capabilities and thus not adversely impact Sacramento Regional Wastewater Treatment Plant operations. (DWR and USBR 2016, Appendix 3B, Section 3.6, p. 3B-81, lines 36-40) There are several problems with DWR's commitment. First, it is not clear that the protocol DWR mentions in its commitment is feasible. Regional San's diversion operations are driven by hourly river flow rates at Freeport. Hourly river flow rates are a	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant Please see response to comment 539-57 regarding project operations and operational criteria descriptions, and regarding the surface water analysis in the EIR.

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	function of tidal forcing and river flows into the Delta. River flows into the Delta, in turn, are a function of natural hydrology as well as reservoir releases and operations in the SWP/CVP system upstream of Freeport. Obviously, DWR does not propose altering tidal forcing or natural hydrology as part of its commitment. As part of the WaterFix project, DWR has modeled CVP/SWP system operations that determine river flows at Freeport. However, DWR's commitment does not appear to extend to modifying SWP/CVP reservoir releases and operations, and it is not clear that it would be possible to modify these operations to reduce the number or duration of reverse flows at Freeport. Thus, DWR's commitment does not appear to involve modifications to the primary factors that influence SRWTP [Sacramento Regional Wastewater Treatment Plant] discharge operations. Instead, DWR's commitment focuses on NDI operations. However, since the proposed NDI diversions are located downstream of Freeport, [Footnote 2: Exponent 2017a at p. 6.] it is not clear how modifying their operations would affect river flows at Freeport or SRWTP diversions in a significant way. Moreover, DWR has not presented, even conceptually, the proposed rule curve and/or operational protocol for the proposed NDI diversion operations. Exponent is unaware of evidence that any operating protocol for the NDI diversions would reduce the number or magnitude reverse flows at Freeport. Thus, DWR's assurance that Regional San's operations would not be significantly impacted appears to be unsubstantiated.	
539-81	[ATT 2 of ATT 2:] Second, DWR appears to assume that as long as Regional San [Sacramento Regional County Sanitation District] currently has	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse

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	sufficient ESB [emergency storage basin] capacity to manage the additional diversions caused by CWF, then CWF will not cause adverse impacts to Regional San. However, this assumption is incorrect. As detailed in Robles (2017), Regional San recently expanded ESB volumes at SRWTP to accommodate future plant flow increases and to add operational flexibility. If Regional San must use some of this expanded ESB volume to accommodate increased diversions under CWF, then CWF will reduce SRWTP's [Sacramento Regional Wastewater Treatment Plant] operational flexibility and the ability to accommodate future plant flow increases. In effect, CWF would consume a portion of Regional San's investment in expanded ESBs [emergency storage basin].	flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions, as well as regarding the water quality analysis in the EIR.
539-82	[ATT 2 of ATT 2:] [ATT 2 of ATT 2:] DWR's Testimony in the SWRCB [Sacramento Water Resources Control Board] Water Right Petition proceedings In testimony before the SWRCB, DWR stated, "CWF is not expected to impact Sacramento Regional County Sanitation District (SRCSD) and its Sacramento Regional Wastewater Treatment Plant (SRWTP) operations" (DWR 2018, p. 15). DWR supported this opinion in part with a critique of Exponent's expert testimony (Exponent 2017b) and an independent analysis of impacts. We address problems with DWR's testimony in the sections below. Use of 181 mgd ADWF DWR challenged Exponent's use of SRWTP average dry weather flow (ADWF) rates of 181 mgd -- the flow rate permitted in the SRWTP NPDES permit. DWR correctly noted that "SRWTP influent flows in recent years have been well	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions. Please see Common Response 9, Hydrologic Modeling and Approach, regarding the modeled representation of CEQA baseline existing conditions and future conditions.

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	below this permit limit of 181 mgd ADWF" (DWR 2018, p. 19). However, DWR then concluded,"using this assumption leads to a drastic overestimation of the number of ESB diversion events under all the CWF operational scenarios including the NAA" (DWR 2018, p. 19). DWR's conclusions are inappropriate and incorrect, and misrepresent the analysis performed by Exponent. First, using permitted flow rates (ADWF of 181 mgd) is appropriate. Regional San's NPDES [National Pollution Discharge Elimination System] permit allows an ADWF of 181 mgd and Regional San's facilities are designed to safely treat and discharge this flow. Also, the CWF project is expected to begin operation in roughly 2030 or later (DWR 2016b, p. 1) and to operate for at least 50 years, [Footnote 3: DWR initially sought a 50-year permit in the Bay Delta Conservation Plan (BDCP) documentation, but as highlighted in comments received on the Draft EIR/EIS, there were major challenges in predicting the "future status of target aquatic species and other future environmental conditions over a 50-year period in light of climate change and other variables." (DWR 2016c, p. 3-26:39-40). DWR currently intends to "focus solely on the construction and operation of new conveyance facilities" (DWR 2016c, p. 3-27: 7-8) and would "not seek 50-year permits under the federal and state endangered species laws." (DWR 2016c, p. 3-27: 7-8)] during which time Regional San [Sacramento Regional County Sanitation District] may discharge at its permitted capacity. Moreover, it is inconsistent for DWR to assert that Regional San should use existing flow rates to evaluate future CWF impacts when DWR has focused its analyses on the future no action alternative (NAA), which reflects expected conditions in 2025 (DWR 2016a, p. 13:25-14:3), as the appropriate baseline	

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	for evaluating CWF impacts.	
539-83	[ATT 2 of ATT 2:] Second, DWR is incorrect in asserting that using flow rates consistent with an ADWF [Average Dry Weather Flow] of 181 mgd "leads to a drastic overestimation of the number of ESB [emergency storage basin] diversion events under all the CWF operational scenarios." DWR has provided no evidence to support this claim. Additionally, there is little reason to think that adjusting the assumed SRWTP [Sacramento Regional Wastewater Treatment Plant] flow rates would significantly affect ESB diversion frequencies or durations because diversion frequency and duration are driven primarily by flow rates in the Sacramento River at Freeport, and these river flow rates are independent of SRWTP flow rates. During reverse flow events, all SRWTP flow to the river is stopped, whether the SRWTP flow rate is low or high. As shown in Figure 1, changes in SRWTP flow rates generally affect the start and end times of diversion events by only a few minutes, while most diversion events last an hour or more.	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions, and regarding the hydrologic modeling and surface water analysis in the EIR.
539-84	[ATT 2 of ATT 2:] [Exhibit 1 of attachment 2 of attachment 2: Sacramento Regional Wastewater Treatment Plant (SRWTP) discharge diversion start and end times for 2015 reverse flow event at Freeport and two different SRWTP discharge rates, 181 mgd and 120 mgd.] Figure 1 -- SRWTP discharge diversion start and end times for a 2015 reverse flow event at Freeport and two different SRWTP discharge rates, 181 mgd and 120 mgd. Diversion start times differ by only 18 minutes and diversion end times differ by only 11 minutes for the two SRWTP discharge rates. Data source: CDEC.	The commenter provided this exhibit for reference purposes in support of their comments on the Bay Delta Conservation Plan/California WaterFix project. Thus, the exhibit does not directly address the Delta Conveyance Project or the Draft EIR and DWR is not required to respond to comments on projects that are no longer being pursued. However, DWR has reviewed the comments provided by the commenter and provided responses herein where comments may still be applicable to the proposed Delta Conveyance Project.

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539-85	[ATT 2 of ATT 2] DWR's Analysis of the Frequency and Duration of ESB Diversion Events To further support the claim that "CWF is not expected to impact…SRWTP [Sacramento Regional Wastewater Treatment Plant]…operations," DWR conducted an independent analysis of expected SRWTP diversions. DWR's analysis focused on the 14:1 ratio of river-to-effluent flow rates, below which SRWTP must initiate a diversion. The first step in DWR's analysis was to calculate the average maximum and minimum monthly effluent discharge rates for the SRWTP, which was done using values from column three of Table 1 and column two of Table 2, from Appendix A of Exponent (2017b) [Exhibits 2 and 3 of attachment 2 of attachment 2]. These tables are reproduced below. … To calculate a maximum daily average effluent discharge rate for each month in the simulation, DWR took the maximum SRWTP influent flow rate value from column three of Table 1 [Exhibit 2 of attachment 2 of attachment 2] (220 mgd, for February), multiplied it by the highest diurnal flow factor in column two of Table 2 (1.16), and converted units to cubic feet per second (cfs), yielding a flow rate of 395 cfs. Using similar methods, DWR calculated a minimum daily average effluent discharge rate of 203 cfs. DWR then multiplied these effluent discharge values by 14 to obtain maximum and minimum Sacramento River flow rate thresholds, below which SRWTP would be required to divert effluent to ESBs. Finally, DWR evaluated the average number of hours and percentage of time that Sacramento River flow rates would drop below the two thresholds over the 82-year DSM2 modeling period for	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions, and regarding the hydrologic modeling and surface water analysis in the EIR. Please also see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools and model limitations. As described in Common Response 9, the modeling tools available were not developed to perform hourly or sub-hourly modeling.

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	baseline (NAA) and project (CWF H3+) scenarios. According to DWR, these calculated numbers indicate the average monthly frequency with which SRWTP would be required to divert to ESBs under the two scenarios, and the average monthly impact to SRWTP operations. However, DWR's calculations used SRWTP influent values rather than effluent values to evaluate diversions to the ESBs, even though the 14:1 ratio applies to effluent discharge from SRWTP to the river. As noted above, DWR (2018) used values from column three of Table 1 as the basis of their calculation. As indicated by the title of the table and by the heading of column two of the table, Table 1 presents influent flow rates, not effluent flow rates. [Footnote 4: Column three of Table 1 is simply a scaled-up version of column two, and thus also represents influent to the plant.] When diversions to ESBs are not occurring, the SRWTP effluent discharge rate is essentially the same as the influent flow rate. However, following diversion periods, when SRWTP has been required to store diverted effluent in the ESBs, discharge to the river includes both treated effluent from the SRWTP (with a flow rate similar to plant influent) and a portion of the treated effluent previously stored in the ESBs. During these periods, SRWTP effluent flow rates are typically considerably higher than plant influent flow rates. An accurate assessment of the frequency and duration of SRWTP effluent diversions must properly account for discharges of effluent from the ESBs to the river. Flow Science's analysis of the frequency and duration of SRWTP effluent diversions to ESBs (Appendix A of Exponent [2017b]) properly accounts for these periods. DWR's analysis has not accounted for flows from the ESBs to the river and is	

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	therefore inaccurate. This inaccuracy indicates a more fundamental flaw in DWR's analysis, namely that it did not conduct an hourly simulation of SRWTP effluent diversions. Instead, as described above, DWR used two influent SRWTP flow rates (395 cfs and 203 cfs) to calculate the river flow rate thresholds that would require diversion of effluent to ESBs. DWR then compared hourly DSM2 river flow rates to the two river flow rate thresholds to determine the frequency of diversions. However, in reality, SRWTP flow rates change continuously, and therefore the river flow rate threshold also changes continuously. To capture this phenomenon, DWR should have calculated hourly river flow rate thresholds (based on hourly effluent flow rates) and compared those hourly thresholds to the hourly DSM2 river flow data. Additionally, as noted above, DWR's analysis should have accounted for the effect on effluent flow rates of releases of effluent from storage in the ESBs, including the volume of water in the ESBs [emergency storage basins] in any given hour. Flow Science accounted for these parameters in its analysis of SRWTP diversions (Exponent 2017b, Appendix A). On April 16, 2018, at DWR's request, Regional San provided Flow Science's modeling code and input files used to conduct its analysis to DWR, but DWR never used them.	
539-86	[Exhibit 2 of ATT 2 of ATT 2: Table titled "Monthly SRWTP [Sacramento Regional Wastewater Treatment Plant] Influent Flows versus Modeled Monthly Flows Scaled to 181 mgd ADWF [average dry weather flows].]	The commenter provided this exhibit for reference purposes in support of their comments on the Bay Delta Conservation Plan/California WaterFix project. Thus, the exhibit does not directly address the Delta Conveyance Project or the Draft EIR and DWR is not required to respond to comments on projects that are no longer being pursued. However, DWR has reviewed the comments provided by the commenter and provided responses where comments may still be applicable to the proposed Delta Conveyance Project.

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539-87	[Exhibit 3 of ATT 2 of ATT 2: Table titled "Hourly Diurnal Flow Factors Provided by Regional San [Sacramento Regional County Sanitation District].]	The commenter provided this exhibit for reference purposes in support of their comments on the Bay Delta Conservation Plan/California WaterFix project. Thus, the exhibit does not directly address the Delta Conveyance Project or the Draft EIR and DWR is not required to respond to comments on projects that are no longer being pursued. However, DWR has reviewed the comments provided by the commenter and provided responses where comments may still be applicable to the proposed Delta Conveyance Project.
539-88	[ATT 2 of ATT 2] DWR's Claim that Impacts are "Minor" and "Minimal" DWR used both its own results and the results of Exponent's (2017b) analysis to support its claim that the impacts to SRWTP operations from CWF would be "minor" and "minimal" (DWR 2018 at pp. 21-22). For example, DWR correctly stated that Exponent's analysis showed that effluent would be stored in the ESBs 18.4% of the time under the H4 scenario and 16.4% of the time under the baseline (NAA) scenario. DWR then asserted these results would amount to a change of 2% under CWF conditions, which DWR concluded was minimal. However, there are two problems with DWR's assertion that this change (and similar changes like it) are minor and minimal. First, characterizing these results as a "2% change" is misleading and fails to characterize the impact to Regional San's [Sacramento Regional County Sanitation District] operations. Exponent's (2017b) analysis showed that Regional San would be required to store effluent in the ESBs [emergency storage basins] for 23,002 hours of the 16-year simulation (16.4% of the time) under the NAA scenario and for 25,807 hours (18.4% of the time) under the CWF H4 scenario, an increase of 2,805 hours, equivalent to a 12% increase. (Note	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant. Please see response to comment 539-57 regarding project operations and operational criteria descriptions.

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	that the hourly values that were the basis of the percentage calculations were not shown in Exponent (2017b), but the 12% increase can also be calculated directly from the percentage values ([18.4% - 16.4%]/16.4% = 12%). Exponent (2017b) predicted similar increases in the number of ESB diversion events under CWF conditions. Exponent (2017b; Table 6) reported that SRWTP would experience 3,571 diversion events under the NAA scenario and 4,189 diversion events under the CWF H4 scenario -- an increase of 618 events, or 17%. These percentage increases (12% and 17%) are neither minimal nor minor.	
539-89	[ATT 2 of ATT 2:] Second, DWR's assertion that CWF impacts to SRWTP's [Sacramento Regional Wastewater Treatment Plant] operations would be minor and minimal also appears to disregard the significant costs to Regional San [Sacramento Regional County Sanitation District] because of the CWF. Ruben Robles, Regional San's Director of Operations, outlined these costs in his testimony (Robles 2017). For example, Robles reported that $6.8 million would be the capital cost to Regional San resulting from the increased use of SRWTP's ESBs under the CWF H4 scenario, relative to the NAA scenario (Robles 2017, Table 1). Similarly, Regional San estimated that annual operations and maintenance costs would increase by approximately $150,000 under CWF H4 conditions, relative to the NAA condition. These costs are neither "minor" nor "minimal."	Please see response to comment 539-55 regarding comments submitted on the Bay Delta Conservation Plan/California WaterFix project. Additionally, please see response to comment 539-56 regarding reverse flows and the Sacramento Regional Wastewater Treatment Plant.
539-90	[ATT 3] The Sacramento Regional Wastewater Treatment Plant (SRWTP), owned and operated by the Sacramento Regional County Sanitation District (Regional San), discharges treated wastewater to the Sacramento River at Freeport. Regional San	This comment is introductory text describing the contents of Attachment 3 (Exhibit C): Exponent Technical Comments on the Delta Conveyance Project and Associated Draft Environmental Impact Report prepared for Regional San. Responses to the specific comments raised regarding the list of issues identified in items 1 through 8 are provided in responses to comments 539-

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	discharges treated wastewater under a National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board (RWQCB), Central Valley Region. Regional San's NPDES permit specifies that discharge to the river can occur only when the ratio of the river flow rate to the effluent flow rate is 14:1 or greater. When river flow rates drop below the 14:1 ratio, Regional San diverts treated effluent to on-site emergency storage basins (ESBs) until the river flow rates return to levels that allow the discharge of treated effluent to resume. Because flow in the Sacramento-San Joaquin Delta (Delta) is strongly tidal, the Sacramento River at Freeport may reverse direction and flow upstream. Regional San's discharge operations depend upon hourly flow rates measured in the Sacramento River at Freeport. To understand the potential impacts that the Delta Conveyance Project (DCP) may have upon Regional San's operations, it is necessary to understand the impacts of the project on hourly river flow rates. Exponent evaluated the Draft EIR and developed the following comments: 1. DWR has not provided details of their analysis of reverse flows, masking important information needed to assess the impacts of the proposed project on Regional San's operations. 2. DWR's simulation of project operations does not include the relaxation of operations rules, such has occurred in recent critically dry years, and as such does not accurately simulate and represent the likely operations and impacts of the proposed project. 3. DWR's water quality analysis is presented in the form of long-term averages, masking important information needed to assess the impacts of the proposed project on water quality	92 through 539-146.

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	within the Delta. 4. DWR's analysis of impacts to Harmful Algal Blooms is flawed due to errors in estimating residence time and analyzing the impacts of velocity. 5. DWR's velocity analysis is irrelevant to the potential for the formation of Harmful Algal Blooms. 6. Comments regarding DWR's evaluation of climate change 6.1. DWR conducted CalSim 3 sensitivity modeling for multiple sea level rise scenarios but did not model conditions in the Delta for the same scenarios. 6.2. In choosing the H++ model scenario with 1.8 feet of sea level rise, DWR chose an extremely unlikely scenario that generated unexplained results, and that may mask the likely impacts of the proposed project. 6.3. DWR's methodology for modeling salinity for scenarios with sea level rise is unclear 6.4. DWR's analysis of in-Delta impacts in 2040 is incomplete, as DWR did not evaluate WQ impacts of levee overtopping or breaches. 6.5. DWR's analysis of the proposed project for 2100 did not consider water quality impacts of sea level rise. 6.6. DWR's assumption of stationarity is flawed. 7. DWR's method of computing and presenting summary statistics is flawed. 8. The Draft EIR is lengthy and difficult to review, and our comments are not complete.	
539-91	[ATT 3] Qualifications I [Susan Paulsen, principal science director at Exponent] have 25 years of experience with projects involving hydrology, hydrogeology, hydrodynamics, aquatic chemistry, and the environmental fate of a range of constituents. I have	This information describes the background of the organization or individual commenter. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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	knowledge of California water supply issues, including expertise in California's Bay Delta estuary. My expertise includes designing and implementing field and modeling studies to evaluate groundwater and surface water flows, the source and distribution of water within the Delta, and contaminant fate and transport. I have also designed studies using one-dimensional hydrodynamic models, three-dimensional computational fluid dynamics models, longitudinal dispersion models, and Monte Carlo stochastic models to evaluate flows, water quality, and mixing within the Delta. I have directed modeling studies and utilized the results of numerical modeling to evaluate surface and groundwater flows. My curriculum vitae is provided as Attachment A [Attachment 1 of attachment 3]	
539-92	[ATT 3:] 1. DWR has not provided details of their analysis of reverse flows, masking important information needed to assess the impacts of the proposed project on Regional San's [Sacramento Regional County Sanitation District] operations. Because flow in the Sacramento-San Joaquin Delta (Delta) is strongly tidal, the Sacramento River at Freeport may reverse direction and flow upstream on flood tides. Regional San currently discharges treated wastewater effluent to the Sacramento River near Freeport when the river-to-effluent flow ratio is 14:1 or greater. When the river-to-effluent flow ratio drops below 14:1 on a flood tide, treated effluent is diverted to on-site emergency storage basins (ESBs); discharge to the river is resumed when the river-to-effluent flow ratio rises to greater than 14:1 on the ebb tide. DWR's Draft Environmental Impact Report for Delta	Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools. The Chapter 5, Surface Water, section titled Project Alternatives specifically describes the existing condition of reverse flows and the operational changes of project alternatives on reverse flows. The figure titled Frequency of Duration of Reverse Flow Events and the figure titled Frequency of Reverse Flow Distances illustrate the relative changes in the frequency, and distance under existing conditions, proposed project and alternatives. The analysis estimated reverse flow events with the project over the 92-year CalSim 3 simulation period. As depicted in the figures, the frequency and extent of reverse flow events estimated to occur under each project alternative would be nearly the same as occurrence and duration under existing conditions.

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	Conveyance Project [Footnote 1: Draft EIR documents were downloaded from https://www.deltaconveyanceproject.com/read-the-document]. (EIR) assesses the impacts of the proposed project over a 95-year timeframe that includes the full range of year types [Footnote 2: Water years are classified as critically dry, dry, below normal, above normal, and wet based on a formula described in https://cdec.water.ca.gov/reportapp/javareports?name=WSIHIST. Accessed on Oct 21, 2022]. DWR simulated project operations and conditions within the Delta for water years (WY) 1923-2015 using several models. The CalSim 3 model, which utilizes a monthly time step, was used to simulate project operations, including reservoir releases and diversions, and exports. Output from CalSim 3 was used as input to DWR's Delta Simulation Model II (DSM2). DSM2 simulates flows and water quality within the Delta using a 15-minute time step, which is necessary to capture tidally-driven flows and water quality conditions within the Delta estuary. Regarding reverse flows, DWR's EIR states, Analyses of reverse flow effects upstream of the project alternative intakes indicates that a very slight increase in reverse flows would be associated with intake operations. The results of these analyses are provided in Chapter 5, Surface Water and the potential for effects on the Freeport Regional Water Facility and Sacramento River Regional Wastewater Treatment Plant operations are addressed in Chapter 21, Public Services and Utilities [Footnote 3: Draft EIR, Chapter 9, at p. 9-31]. (emphasis added)	

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	Chapter 5 of the Draft EIR states, Reverse flows in the Sacramento River upstream of the DCP intake occur naturally, especially during low flows in Sacramento River. Operation of the DCP has the potential to increase the frequency of these reverse flows in the Sacramento River upstream of the intake locations. These changes were evaluated by DWR through the application of DSM2 based on the 92-year CalSim 3 simulation of with and without project conditions. The result of the assessment determined the frequency of reverse flows in the Sacramento River upstream of the proposed intakes, near the Sacramento Regional Wastewater Treatment Plant, would increase slightly when the intakes were operating. The reverse flows attributable to these operations are very small in both duration and reverse flow distance. According to DSM2 results, there is no increase in frequency of stronger reverse flow events (Reverse flow distance greater than 0.8 mile). [Footnote 4: Draft EIR, Chapter 5, at p. 5-25] (emphasis added) Finally, Chapter 21 of the Draft EIR states, Operation of the intakes could result in reverse flows in the Sacramento River. The extent of reverse flows were [sic] considered in relation to the operation of the Sacramento Regional Wastewater Treatment Plant. As described in Chapter 5, Surface Water, modeling shows that flows at Sacramento River at Sacramento Regional Wastewater Treatment Plant are not affected by DCP operation and low flows would occur at very similar frequency with or without DCP operations. Analysis of 15-minute DSM2 results further indicated that flows at Sacramento River at Sacramento Regional Wastewater	

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	Treatment Plant are not affected by DCP operation and low flows would occur at very similar frequency with or without DCP operations. Because the Sacramento Regional Wastewater Treatment Plant is located upstream of the DCP intakes, and reverse flows attributable to project operations are very small in both duration and reverse flow distance, there would be no effect on Sacramento Regional Wastewater Treatment Plant [Footnote 4: Draft EIR, Chapter 5, at p. 5-25] (emphasis added). To our knowledge, these three paragraphs provide the only discussion of the potential impacts to reverse flows in the Sacramento River. DWR has not, to our knowledge, presented the details of its analysis. For example, DWR has not tabulated the number or duration of reverse flow events for the no-action alternative and each of the modeled alternatives, nor has it presented its analysis in the form of figures that would allow a quantitative assessment of the number and duration of reverse flow events for each of the model simulations. Thus, it is not possible for Regional San to discern whether the increase in the number of reverse flow events is "at very similar frequency," whether the frequency of reverse flows would "increase slightly," or whether there would be "no effect" on Regional San's operations. Further, because DWR has not presented details of its analyses for the project alternatives, it is not possible for Regional San to ascertain whether the number and duration of reverse flow events would be similar for each of the project alternatives; this is particularly important for Alternatives 2a and 4a, which have the highest potential diversion capacity and which include a proposed third intake just downstream of the harmonic mixing zone described in Regional San's NPDES permit.	

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539-93	[ATT 3] Finally, DWR has not evaluated the frequency and duration of reverse flow events for the future (2040) climate change condition; although the number of reverse flow events is expected to increase as a result of sea level rise, DWR has not presented an analysis of the number of reverse flow events in the 2040 no-project scenario, or whether the DCP project operations would increase the frequency or duration of reverse flow events in future conditions.	The No Project Alternative 2040 section of Appendix 5A, Modeling Technical Appendix, Section A, Modeling Overview, describes the No Project Alternative 2040 as essentially the same facilities and programs as the existing conditions for modeling purposes. As indicated in Appendix 5a, Section B, Hydrology and Systems Operations Modeling, Attachment 5, CalSim 3 Model Results for No Project Alternative and Alternatives at 2040, the flows at this location remain unchanged with and without project.
539-94	[ATT 3] 2. DWR's simulation of project operations does not include the relaxation of operations rules, such has occurred in recent critically dry years, and as such does not accurately simulate and represent the likely operations and impacts of the proposed project DWR has described project operations in Appendix 5A, Section B of the Draft EIR. Project operations were simulated using the CalSim3 and DSM2 models as described in the EIR. In a section called "Relaxation of Regulatory Requirements," DWR notes that "CalSim 3 makes storage release decisions and routes water through the stream network, based on a set of pre-defined rules that represent existing or future assumed regulations and operations criteria. These pre-defined rules do not include temporary relaxation of non-discretionary regulatory requirements such as occurred in 2014 and 2015 as a result of Temporary Urgent [sic] Change Petitions submitted to the State Water Board." [Footnote 6: Draft EIR, Appendix 5A, Section B, at p. B-66. [Note that this appendix has multiple pages with duplicate page numbers. This quotation is found on	Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools, modeled representation of future conditions and climate change and consideration of drought and temporary urgency change petitions. The section in Common Response 3, Alternatives Development and Description, that discusses dry conditions and Temporary Urgency Change Petitions (TUCPs) provides additional information regarding the TUCP process. TUCPs occur infrequently and under unique and very extreme circumstances. TUCPs are not part of the project, operational criteria, or operations for the Delta Conveyance Project and as such, fall outside the scope of CEQA requirements for this EIR. As described in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, sections Relaxation of Regulatory Requirements, Monthly Timestep, and Extreme Conditions, CalSim 3 is a monthly time-step model and does not represent real-time policy and operational decisions or extreme circumstances that deviate from standard operating polices.

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	the first page B-66 (pdf p. 70), not the second page B-66 (pdf p. 286)] (emphasis added). DWR further notes that "Frequency of extreme conditions is expected to increase in the future under the combined effects of climate change and sea level rise." [Footnote 7: Ibid.] Thus, DWR's modeling and project evaluations do not incorporate the changed operations that have occurred pursuant to the Temporary Urgency Change Petitions (TUCPs) issued in recent years during critically dry conditions. In addition to the TUCPs issued in the critically dry years of 2014 and 2015, TUCPs were also issued in 2016, 2021 and 2022 [Footnote 8: https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/tucp/]. The historical simulation period of 1922-2015 includes 15 critically dry years. [Footnote 9: https://cdec.water.ca.gov/reportapp/javareports?name=WSIHIST]. It is entirely foreseeable that TUCPs may be adopted and project operations may be modified during critically dry years in the future, yet DWR has not evaluated water quality conditions within the Delta under these conditions, including the potential impact of operation of the new proposed North Delta Diversion intakes. Because DWR has not simulated the changed operations that may result during critically dry conditions, DWR's modeling evaluation and discussion of impacts within the Draft EIR is incomplete. Further, DWR's model simulations of future conditions indicate that the salinity of the Delta will increase over time as a result of sea level rise. DWR has not disclosed if it anticipates requiring TUCPs more frequently under these	

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	conditions, or the water quality impacts of operating under TUCPs in the future.	
539-95	[ATT 3:] 3. DWR's water quality analysis is presented in the form of long-term averages, masking important information needed to assess the impacts of the proposed project on water quality within the Delta. Throughout the EIR, DWR discusses water quality changes resulting from the proposed project as long-term averages aggregated statistically. For example, electrical conductivity (EC) data from DSM2 were first processed to compute monthly average EC values, from which statistical distributions were then calculated for the full 95-year simulation period. See, for example, Figures 1 and 2 [Exhibits 1 and 2 ATT 3], which are reproduced from EIR Appendix 9G.	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the use of monthly average modeling results in the water quality impact analysis.
539-96	[ATT 3:] [Exhibit 1 ATT 3: Model results for monthly average electrical conductivity at Emmaton, Existing Conditions. Reproduced from EIR Appendix 9G, page 9G-9.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-97	[Exhibit 2 ATT 3: Model results for monthly average electrical conductivity at Emmaton, Alternative 5 (proposed project), and increment due to project (Alternative 5 minus Existing Condition). Reproduced from EIR Appendix 9G, page 9G-14.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-98	[ATT 3:] Although the long-term average salinity data presented in the EIR indicate that many locations can expect increases in salinity, particularly during the summer and fall months (see	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the presentation of data and use of monthly average modeling results in the water quality impact analysis. The purpose of Chapter 9, Water Quality, is to assess environmental impacts resulting from project operations-caused changes in surface water quality, relative to

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	Figures 1 and 2 [Exhibits 1 and 2 ATT 3]), the information in the EIR does not provide the level of detail required to assess project impacts. Like Regional San [Sacramento Regional County Sanitation District], most entities within the Delta, including municipal water purveyors, agricultural water users, and POTWs [Publicly Owned Treatment Works] who discharge to the Delta, operate facilities and manage treatment operations on short timeframes (e.g., hourly). Model results that are processed to show long-term averages and then provided in summary statistical format do not provide the information needed to assess the impacts of the proposed project on their operations. In addition, DWR has made fundamental statistical errors, as detailed in Opinion 6 that make it even more difficult to assess the impacts of the proposed project.	water quality for existing conditions, based on the CEQA thresholds of significance. The use of monthly averaged modeling output was appropriate relative to modeling capabilities and provided sufficient (i.e., n=93) concentration values for each month from which to assess the degree and direction of water quality changes due to project operations. As disclosed in Chapter 9, the impact on water quality due to project operations would be less than significant because: (1) the project would not cause an increased frequency of exceedance of federal water quality criteria or state water quality objectives at the time-steps they are applied, which include averaging concentrations for bromide, chloride, and electrical conductivity (EC); and (2) the project would not cause degradation of water quality, including bromide, chloride, and EC, that would adversely affect the beneficial uses, including drinking water uses. Please see Common Response 10 regarding water quality analysis thresholds of significance.
539-99	[ATT 3:] Changes in Delta water quality have the potential to impact the terms of Regional San's [Sacramento Regional County Sanitation District] discharge permit. When an NPDES [National Pollution Elimination Discharge System] permit is issued or re-issued, the Regional Water Quality Control Board (Regional Board) performs a "reasonable potential analysis" to determine if a discharge has the "reasonable potential" to "cause or contribute" to an exceedance of water quality standards; water quality degradation in the Delta makes it more likely that the discharge will be found to have "reasonable potential." The Regional Board also imposes permit conditions, including effluent limitations, that are computed considering receiving water constituent concentrations and calculates total maximum daily loads (TMDLs) that are a direct function of receiving water quality. If the water quality in the Delta is	The commenter is providing this attachment in support of their comments. Those comments are addressed in these responses to the commenter's letter. Regarding water quality concerns associated with reverse flows, please see responses to comments 539-18.

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	degraded by the operation of the proposed project (or the alternatives to the proposed project), this may result in a determination that Regional San's discharges have the reasonable potential to contribute to exceedances of water quality standards and the subsequent implementation of more stringent permit requirements.	
539-100	[ATT 3:] 4. DWR's analysis of impacts to Harmful Algal Blooms is flawed due to errors in estimating residence time and analyzing the impacts of velocity DWR's analysis of cyanobacteria harmful algal blooms is presented in Chapter 9 (Water Quality) and Appendix 9E. DWR evaluated five primary factors that "provide favorable conditions" for mycrocystis to outcompete other phytoplankton in the Delta, including (1) water temperature, (2) channel flow velocities, (3) residence times, (4) water column irradiance/clarity, and (5) nutrient availability. Our [Sacramento Regional County Sanitation District] analysis focuses on the hydrodynamic parameters of channel flow velocities and residence time. DWR's residence time analysis. DWR correctly notes that an increase in residence times may contribute to an increased likelihood of algal blooms. DWR's analysis focused on evaluating residence times in nine Delta locations "that have been part of routine Delta monitoring programs and identified as primary bloom areas" [Footnote 10: Draft EIR, Appendix 9E, at p. 9E-8] plus additional locations "to more accurately capture how the project alternatives could potentially affect water residence times across the Delta." [Footnote 11: Draft	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the DSM2 residence time modeling and the use of DSM2-modeled channel velocities to support the CHABs analysis in Chapter 9, Water Quality, Impact WQ-14. The comment assertion that the residence time modeling approach supporting the CHABs analysis in Chapter 9 is flawed is not supported by the current scientific understanding of cyanobacteria growth and the formation of CHABs in the Delta. Hydraulic residence time at various locations within the Delta was assessed directly using the QUAL module of DSM2, which is an appropriate model to assess site-specific residence time in the shallow and tidal Delta. Channel velocity was considered as one of the five factors related to the emergence and subsequent growth and accumulation of CHABs to inform the potential for mixing of the water column, which is relevant to formation of CHABs.

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	EIR, Appendix 9E, at p. 9E-9.] DWR identified sub-regions of the Delta as indicated in Figure 3 [see Exhibit 3 ATT 3] and used the DSM2 model to simulate a concentration of 100 units within each sub-region (and zero units outside of each sub-region), then to compute the time (in hours) for 90% of the water within that subregion to leave each sub-region. [Footnote 12: Draft EIR, Appendix 5A, Section C.6.6, p. C-21: "For this analysis, a concentration of 100 is assigned to all DSM2 channels within the zone defined, while for all other DSM2 channels outside the zone an initial concentration of zero is assigned." "For each channel within the zone, residence time for a given channel is defined as the length of time it takes for 90% of the constituent to leave through either end of channels." And "The residence time for the entire zone is defined as the average of the length of residence time for the individual DSM2 channels within the defined zone."] This "Time (in hours) to Flush 90 Percent of Water from the Location" was computed for each month in the simulation period (1923-2015), and results were averaged for each month. Results for the existing condition and project alternatives were compared; if results were the same for each alternative, DWR concluded that residence time within that sub-region of the Delta did not increase as a result of the project. Based on its analysis, DWR noted increases in residence time in some of the sub-regions it analyzed [Footnote 13: For example, the EIR noted, "In the San Joaquin River near Venice Island, model results show median residence time generally increases under all alternatives for the full simulation period for the months of July through November (Table 9-50; refer to Appendix 9E, Tables 9E-3-10-1 to 9E-3-10-6 and Figure 9E-3-10.)" (Draft EIR, Chapter 9, p. 9-166.) DWR further found that	

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	alternatives 2a and 4a, which involve higher diversion rates and potentially a third intake, have greater impacts: "The greatest increase in residence time in the San Joaquin River near Venice Island was modeled to occur in November at the 75th percentile. Residence time in the 75th percentile increase by 16 to 17 hours under Alternatives 1, 2b, 2c, 3, 4b, 4c, and 5 and by 32 hours under Alternatives 2a and 4a." (Draft EIR, Chapter 9, p. 9-167).][Footnote 14: For example, the EIR noted "At Mildred Island, the modeled median residence time for the full simulation period under the project alternatives, relative to existing conditions, show [sic] little to no change in residence time for June and November (Table 9-51; refer to Appendix 9E, Tables 9E-3-8-1 to 9E-3-8-6 and Figure 9E-3-8). Under all project alternatives there are increases in median residence time in July, August, September, and October…" (Draft EIR, Chapter 9, p. 9-168).] but "little to no change" in residence time in other sub-regions. [Footnote 15: For example, Table 9-47 (which is not referenced in the text of the Draft EIR) shows "modeled median residence time in hours using DSM2 for Existing Conditions and Project Alternatives for Locations with Short Residence Time (i.e., ≤ 72 hours [3 days])" and indicates little difference or slight increases between existing conditions and project alternatives (Draft EIR, Chapter 9, p. 9-160)] However, as detailed below, DWR's analysis is fundamentally flawed and is not indicative of residence times of the Delta estuary.	
539-101	[ATT 3:] [Exhibit 3 ATT 3: Figure titled 'Sub-regions used by DWR to estimate "residence time."' Source: DSM2 model grid Version 8.2.1, from June 2021.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.

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539-102	[ATT 3:] Flaws in DWR's analysis of residence time. As detailed below, DWR's analysis of residence time is flawed in several respects: 1. Small sub-regions of the Delta are arbitrary, and results are a function of the subregions selected, not a function of hydrodynamics within the Delta. The methodology employed by DWR to estimate "pseudo-residence time" [Footnote 16: We use the term "pseudo-residence time" because, as detailed below, DWR's calculations are unrelated to the true residence time of an estuary.] divided the Delta into a number of sub-regions. DWR provided no basis for the selection of the sub-regions, either in terms of their size, the volume of water they contain, or any other factor. Thus, the subregions defined by DWR are arbitrary, and the "pseudo-residence time" for each sub-region is a function of the size/volume and tidal flow conditions of that sub-region. The pseudo-residence time values calculated by DWR are unrelated to the actual residence time of the estuary. To understand why DWR's methodology is flawed, consider that water may leave each defined sub-region by (1) advecting and dispersing into channels adjacent to each sub-region (i.e., remaining within the Delta) or (2) being pumped out of the region (e.g., for in-Delta consumptive use or exported from the Delta). Water that sloshes into adjacent channel segments due to tidal flows remains within the Delta, as would any algal cells that were present in the water within each defined sub-region. Many of the sub-regions are connected to multiple channels within the Delta; for example, the Middle River sub-region is	The comment assertion that the residence time modeling approach supporting the CHABs analysis in Chapter 9, Water Quality, is arbitrary is not supported by the current scientific understanding of cyanobacteria growth and the formation of CHABs in the Delta. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the residence time modeling, calculations performed to support the CHABs analysis in Impact WQ-14, and description of why site-specific residence times were assessed and considered in the impact analysis. Regarding the commenter's IKEA showroom analogy for Delta residence time and CHABs, the important consideration is not the residence time for the Delta as a whole, as asserted, but rather residence time at specific locations within the Delta where other conditions are favorable for CHABs. As described further in Chapter 9, Water Quality, Appendix 9E, Cyanobacteria Harmful Algal Blooms, and Common Response 10, cyanobacteria are not produced at the same rate or to the same abundance in all areas of the Delta. Rather, CHABs form at specific locations within the Delta and cyanobacteria cells are then dispersed broadly across the Delta. Therefore, relating residence time for the Delta as a whole to CHAB formation potential is not as useful as assessing residence time in areas known to experience CHABs, as is done in the EIR. Comparing this to the IKEA showroom analogy, the time a person spends in the entire IKEA store is not as useful in explaining sales (sales being analogous to CHABs) as the amount of time they spend in certain sections of the store and why. Shoppers have varying reasons for being in the store, and thus spend different amounts of time in different departments, with varying effects on sales. Total sales (in dollars) attributed to the kitchen section may be three or four times higher than those for the bedroom section, based on time spent in these departments or department-specific factors, such as inventory and discounted items. Furthermore, time spent in the store could be on nonactive shopping activities. Some shoppers may pause

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	connected to five separate channels [Middle River to the north, Empire Cut, Middle River to the south, North Victoria Canal, and the channel between Woodward and Bacon Islands], such that DWR's original tracer may exit this sub-region through five different channels (but remain in the Delta) in addition to being pumped out of the channels for in-Delta consumptive use (thus being removed from the Delta). Further, algal cells may flow through several of DWR's defined sub-regions before they are removed from the Delta. For example, a portion of the San Joaquin River water that enters the Delta at Vernalis may flow through the Stockton Deep Ship Channel, Venice Island, Franks Tract, and Jersey Island sub-regions (and through channels between these sub-regions) before exiting the Delta. Thus, algal cells that may be present within one sub-region of the Delta will flow through other Delta channels and remain within the Delta for far longer than indicated by DWR's calculation of the pseudo-residence time. An imperfect analogy for understanding why DWR's methodology is incorrect is the Ikea Showroom. It would not be appropriate to estimate the average length of time a person spends in an Ikea store by evaluating the average length of time spent by people in the bedding section or in the kitchens section. Rather, because there are multiple (tortuous) paths that a person may take through an Ikea, the average time spent within the Ikea can best be estimated by monitoring the total number of people inside the store during open hours and the rate at which people enter and leave the Ikea through the exterior doors. See Figure 4 [Exhibit 4 ATT 3].	to take a call on their cell phone. Some shoppers may need to use the restroom. Shoppers making purchases spend time in the checkout line, the duration of which can vary greatly. Active shopping time combined with nonactive shopping time gives a single metric of time spent in the store, but does not differentiate the more important metrics of time spent actively shopping in different areas of the store and why purchases are made. Hence, to understand sales (or CHAB formation in the Delta), it is important to understand the time customers spend actively shopping in each section of the store and department-specific factors, not just the total time spent in the store. Therefore, the IKEA showroom analogy is an inappropriate representation of how residence time should be calculated for the CHABs analysis in the EIR.

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539-103	[ATT 3] [Exhibit 4 of ATT 3: Ikea Showroom, Woodbridge, Virginia. Red circles showing bed textiles and kitchens departments added by Exponent. Source: https://www.ikea.com/us/en/files/pdf/65/a3/65a35814/woodbridge_store_map.pdf	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.
539-104	[ATT 3] 2. Residence time for estuary should be evaluated for the system as a whole. Chapter 7 of Fischer et al. (1979) presents a detailed analysis of mixing in estuaries, including a derivation of the residence time (called the "mean detention time," defined as the meantime that a particle of tracer remains inside an estuary). The mean residence time is estimated as the volume of water in the estuary divided by the flow rate of freshwater inflows. [Footnote 17: Fischer, H.B., E.J. List, R.C.Y. Koh, J. Imberger, and N.H. Brooks. Mixing in Inland and Coastal Waters. Academic Press: London. 1979. Chapter 7: Mixing in Estuaries. At pp. 274-275] DWR has used DSM2 modeling to perform more detailed estimates of residence time, defined as the time required for flows entering the Delta to leave the Delta (as a whole). Specifically, DWR calculated the residence time of fresh water in the Delta using particle tracking simulations modeled with the DSM2 Particle Tracking Module (Mierzwa et al. 2006a [Footnote 18: Mierzwa, M., J. Wilde, and B. Suits. 2006a. Long-Term Trends of Delta Residence Time. California Department of Water Resources. Bay-Delta Office. Modeling Support Branch. Delta Modeling Section.], 2006b [Footnote 19: Mierzwa, M., J. Wilde, B. Suits, and T. Sommer. 2006b. Methodology for Flow and Salinity Estimates in the Sacramento-San Joaquin Delta and	The comment assertion that the residence time modeling and calculations supporting the CHABs analysis in Chapter 9, Water Quality, should be evaluated for the Delta as a whole is not supported by the current scientific understanding of cyanobacteria growth and the formation of CHABs in the Delta. This comment presents alternative calculations of residence time for the Delta. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the residence time modeling and calculations performed to support the CHABs analysis in Impact WQ-14. As described in Common Response 10, the definition of residence time and DWR's approach to evaluating residence time are scientifically supported and not arbitrary. In fact, it is the most appropriate approach to compute the residence time relevant to analyze effects on CHABs. The residence time calculation presented by the commenter, which does not represent the local conditions, is not relevant for the mechanisms driving the CHABs dynamics. The approach, described both in Chapter 9 and further clarified in Common Response 10, fully evaluates the potential impacts of the operation of the Delta Conveyance Project on CHABs.

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	Suisun Marsh. Chapter 3: Developing a Residence Time Index to Study Changes in 1990-2004 Delta Circulation Patterns.], and Wilde et al. 2006c [Footnote 20: Wilde, J., M. Mierzwa, and B. Suits. 2006. Using particle tracking to indicate Delta residence time. California Dept. of Water Resources. Bay-Delta Office. Modeling Support Branch. Delta Modeling Section.]. Mierzwa et al. (2006a and 2006b)) simulated the residence time of water in the Delta between 1990 and 2004 by tracking water that entered the system at Freeport (on the Sacramento River) and at Vernalis (on the San Joaquin River). The residence time was defined as the number of days required for 75% of the particles injected over a 24-hour period at a specific location (e.g., Freeport) to leave or be removed from Delta channels. The particles were assumed to have left Delta channels when they passed (i.e., were detected) at the following locations: SWP and CVP pumps, CCWD and North Bay Aqueduct intakes, Delta island diversions, and the Sacramento River at Chipps Island. Mierzwa et al. (2006a and 2006b) determined the average 75% particle residence time for each month (e.g., every February, every October) between 1990 and 2004 and then calculated a long-term mean for each month with those averages. The long-term mean monthly residence times are shown in Table 1 [see exhibit 5 of ATT 3], together with minimum and maximum monthly residence times during the 1990-2004 time period. The monthly average residence times of Sacramento River inflows ranged from an average of 16 days during February (minimum of 3 days and maximum of 38 days) to 51 days during October (minimum of 37 days and maximum of 74 days). Monthly average residence times for San Joaquin River flows ranged from an average of 16 days during January	

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	(minimum of 6 days and maximum of 38 days) to 33 days during April (minimum of 8 days and maximum of 54 days). As expected, residence times were longer during dry years than during wet years; minimum residence times for Sacramento inflows occurred during 1997 and 1998, which were wet years, while maximum residence times occurred during 1992, a critically dry year. Corrected residence times. By definition, the residence time is a function of the amount of water present in the system and the flow rate of water into (or out of) the system. Residence time can be estimated as follows: [Residence Time = (Volume of water)/(Flow rate into system) = (Volume of water)/(Flow rate out of system)] During high-flow conditions, residence times are shorter, while during low-flow (drought) conditions, residence times are longer. Exponent assessed the residence time of water within the Delta for each month in the 95-year simulation period for the existing condition scenario and the proposed project (Alternative 5). To perform the calculation, Exponent used the USGS estimate of the volume of water within the Delta [1.343 million acre-feet (MAF)]. [Footnote 21: U.S. Geological Survey, 2007. Suisun Bay & Delta Bathymetry: Production of a 10-meter Grid. Available at https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/SHR/SHR-407.pdf] Total monthly inflows were calculated from DWR's DSM2 model results for the proposed project scenario as the sum of flows from the Sacramento River, San Joaquin River,	

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	eastside streams, and Yolo bypass minus any diversions from the proposed North Delta intakes.	
539-105	[ATT 3:] [Exhibit 5 ATT 3: Average monthly residence times (in days) between 1990 and 2004 for flow entering the Delta from the Sacramento River at Freeport and from the San Joaquin River at Vernalis. Calculated residence times assume that 75% of simulated particles have left or were removed from Delta channels (Data from Mierzwa et al. 2006b).]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-106	[ATT 3] Exponent also computed monthly residence times for the 2040 no-project and proposed project scenarios, which involve 1.8 ft of sea level rise. Based on the estimated surface area of the Delta (57,000 acres from Jassby and Cloern (2000)) and an increase in water level of 1.8 ft, we estimated that the volume of water in the Delta would increase by 102.6 TAF with 1.8 ft of sea level rise, and we computed Delta inflows from DSM2 model results as noted above. The results of our residence time computations are shown in Table 2 [see exhibit 6 of attachment 3]. Several observations follow from Table 2. First, the mean residence time for Alternative 5 (proposed project) is higher in all months than the mean residence time for existing conditions. Similarly, the mean residence time in 2040 for Alternative 5 (proposed project) is higher in all months than the mean residence time for the 2040 no-project condition. The long-term mean monthly residence time with the proposed project increases between 8% and 15%. Second, the shift in hydrology is apparent in the computed residence times. The residence times in 2040 (no project) are lower than the	This comment presents alternative calculations of residence time for the Delta. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the residence time modeling and calculations performed to support the CHABs analysis in Impact WQ-14. As described in Common Response 10, the definition of residence time and DWR's approach to evaluating residence time are scientifically supported and not arbitrary, contrary to the claims of the comment. In fact, it is the most appropriate approach to compute the residence time relevant to analyze effects on CHABs. The residence time calculation presented by the commenter, which does not represent the local conditions, is not relevant for the mechanisms driving the CHABs dynamics. The approach, described both in Chapter 9, Water Quality, and further clarified in Common Response 10, fully evaluates the potential impacts of the operation of the Delta Conveyance Project on CHABs.

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	residence times in 2020 (existing condition) for the months of December, January, February, March, and April due to increasing Delta inflows as a result of shifting hydrological conditions. In the remaining seven months of the year, including the warmer summer months when algal blooms are most likely, climate change results in an increase in residence time, increasing the likelihood of algal blooms under these conditions, and the proposed project increases residence time even more than climate change alone.	
539-107	[ATT 3] [Exhibit 6 of Attachment 3: Mean residence time in the Delta over the 95-year simulation period. Computed from Delta volume and Delta inflows from DWR's DSM2 model scenarios (see text for detail).	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-108	[ATT 3:] 5. DWR's velocity analysis is irrelevant to the potential for the formation of Harmful Algal Blooms DWR's analysis of the potential for the formation of algal blooms includes analyses of the velocity of flows in Delta channels. For example, DWR stated "DSM2 was used to model channel velocities at various Delta locations (Appendix 9E). This analysis focused on how the project alternatives would affect 15-minute absolute velocity (regardless of direction) in channels of the Delta. Mathematical daily average velocity may approach zero when flows on the tidal cycle move in opposite directions, and thus is not very useful for determining how channel velocity affects cyanobacteria. In such tidally influenced channels, 15-minute absolute velocity (regardless of direction) is the parameter that	The comment's assertion that modeled 15-minute channel velocities are irrelevant for the CHABs analysis in Chapter 9, Water Quality, is not supported by the current scientific understanding of cyanobacteria growth and the formation of CHABs in the Delta. Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of using 15-minute channel velocities to support the CHABs analysis in Impact WQ-14.

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	best characterize [sic] the degree of channel mixing that occurs daily. Hence, this analysis determines how the project alternatives would affect 15-minute absolute velocity, relative to velocities for existing conditions at the assessment locations. The project alternatives would have negligible, if any, effect on the probability with which any given 15-minute absolute velocity would occur at the assessment locations during the June through November period … Consequently, the project alternatives would not alter turbulence and mixing within Delta channels sufficiently to substantially affect, or even measurably affect, the frequency or size of Microcystis or other cyanobacteria blooms at any Delta assessment location, relative to existing conditions." [Footnote 22: Draft EIR, Chapter 9, at pp. 9-156 to 9-157.] As detailed below, the EIR presents a simplified analysis of Delta hydrodynamics and channel velocities, presenting cumulative probability diagrams based on 15-minute absolute velocities. However, rather than focusing on factors that may be relevant for cyanobacteria, DWR's analysis of 15-minute absolute velocities only establishes that channel velocities within the Delta are driven by the tides. To illustrate this point, Exponent has prepared several figures. Figure 5 [Exhibit 7 ATT 3] presents the channel velocities predicted by the DSM2 model in the channel between Venice Island and Empire Tract for the water year (WY) 1987, a dry water year. [Footnote 23: https://cdec.water.ca.gov/reportapp/javareports?name=WSIHIST] Figure 5 presents the simulated velocities both as 15-minute model output and as daily average (or net) velocity. Figure 5 demonstrates that the flow at Stockton's municipal	

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	drinking water intake reverses direction on a daily basis, with 15- minute velocities ranging from -0.37 feet per second (fps; upstream direction) to +0.68 fps (downstream direction). Thus, flow at Stockton's intake location "sloshes" back and forth twice daily as a result of tidal forcing. In contrast, daily average velocities are much lower, ranging from about +0.07 fps (downstream) to +0.24 fps (downstream). Thus, while instantaneous (15- minute) velocities can reach high levels, high velocities do not persist for long periods of time, and the net velocity, with tidal fluctuations removed, is much lower in this area of the Delta. Figure 6 [Exhibit 8 ATT 3] presents 15-minute and daily average velocities for the month of June 1987. Consistent with Figure 5 [exhibit 7 of attachment 3], 15-minute velocities range from about -0.36 fps (upstream) to +0.64 fps (downstream direction), but daily average velocities range from about +0.1 fps (downstream) to +0.18 fps (downstream). Finally, Figure 7 [Exhibit 9 ATT 3] presents 15-minute and daily average velocities for a seven-day period in June 1987; 15-minute velocities in Figure 7 range from -0.36 fps (upstream) to +0.64 fps (downstream), but daily average velocities range from about +0.11 fps (downstream) to +0.18 fps (downstream).	
539-109	[Exhibit 7 of ATT 3: 15-minute flow velocity (dark gray) and daily average flow velocity (colored lines) near Venice Island (DSM2 output location RSAN043 in channel 319) during water year 1987, a dry water year.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-110	[Exhibit 8 ATT 3: 15-minute flow velocity (dark gray) and daily average flow velocity (colored lines) near Venice Island during June 1987.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.

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539-111	[Exhibit 9 ATT 3: 15-minute flow velocity (dark gray) and daily average flow velocity (colored lines) near Venice Island from June 11 - 17, 1987.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-112	[ATT 3:] In contrast to Figures 5-7 [Exhibits 7 -- 9 ATT 3], which show the impact of tidal forcing on velocities in the San Joaquin River near Venice Island, the EIR presents only exceedance probability plots of "15- minute absolute velocity." See, for example, Figure 8 [Exhibit 10 ATT 3], which presents a cumulative probability distribution for the "15-minute absolute velocity" for the month of June (i.e., all Junes within the 95-year simulation period). Figure 8 indicates that the "15-minute absolute velocity" varies from about 0 fps to about +0.6 fps and that the lines for the six model scenarios (existing condition plus project alternatives) fall nearly on top of each other (i.e., are virtually indistinguishable). Figure 8 does not indicate the "sloshing" nature of flows at this location within the Delta or the fact that daily average absolute velocities are far lower than the range of the "15-minute absolute velocity" values.	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of using 15-minute channel velocities to support the CHABs analysis in Impact WQ-14.
539-113	[Exhibit 10 ATT 3: Cumulative probability distribution for 15-minute absolute velocity (fps) at San Joaquin near Venice Island for June. (Figure 9E-2-8-1 from EIR page 9E-79).]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-114	[ATT 3:] Figure 5 to Figure 7 [Exhibit 5-7 ATT 3] clearly indicate that low channel velocities occur approximately four times per day near Venice Island (i.e., as the sloshing flow changes direction) and that daily average velocities can be characterized as "low" relative to peak 15-minute velocities. Because the 15- minute channel velocity indicates strong sloshing, it is expected that the velocity distribution will not change significantly as a result	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of using 15-minute channel velocities to support the CHABs analysis in Impact WQ-14.

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	of the implementation of the proposed project. (After all, the proposed project will not change tidal forcing, which is driven by gravitational forces exerted on the earth by the sun and the moon.) For this reason, DWR's analysis of the frequency of low channel velocities is not meaningful in the context of hydrodynamics in the Delta or the potential for the development of algal blooms.	
539-115	[ATT 3:] While the net channel velocity might be meaningful in the context of assessing project impacts to algal bloom formation (because it is a measure of the net movement of water through the channels of the Delta, which is related to residence time), the "15-minute absolute velocity" is not relevant (because it demonstrates only that the Delta is a strongly tidal system). Indeed, it is well established that algal blooms form within the Delta under current conditions, particularly in channels with less flushing (i.e., where tidally or daily averaged velocities are low), even though those channels currently experience "15-minute absolute velocity" values identical or similar to those modeled using DSM2 and depicted in the EIR. However, DWR did not present information regarding either tidally- or daily averaged net velocities, and such information cannot be derived or inferred from the velocity information presented in the EIR. Thus, DWR's analysis of 15-minute absolute velocity is irrelevant to the formation of HABs in the Delta. DWR should remove its analysis of 15-minute velocity and remove channel velocity as an indicator of the probability of harmful algal blooms. Because the Draft EIR analysis is based on irrelevant information, the Draft EIR's impact determinations that rely on that information are not reliable or suitable for informed decision making. The Draft EIR impact analysis should be	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of using channel velocities to support the CHABs analysis in Impact WQ-14.

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	revised to reconsider the project's potential to increase harmful algal blooms in light of relevant information.	
539-116	[ATT 3:] 6. Comments regarding DWR's evaluation of climate change The Draft EIR evaluated several parameters that are expected to change with climate change, including precipitation patterns, temperature, and sea level rise. Because of its direct impact on salinity, water quality, and residence time within the Delta, our evaluation focused primarily on sea level rise. Regional San will be impacted by sea level rise, which will increase the frequency of reverse flow events. Water quality within the Delta will also be impacted by sea level rise, which in turn is expected to impact the NPDES [National Pollution Discharge Elimination System] permit requirements applicable to Regional San [Sacramento Regional County Sanitation District]. Because Regional San's NPDES permit is renewed approximately every five years, it is important to evaluate impacts to water quality at intervals. Chapter 5A, Section B [Footnote 24: Draft EIR, Appendix 5A, Section B.6.2, at p. B-49] states that "Sea level rise assumptions for the project are based on the California Ocean Protection Council's (OPC) guidance updated in 2018, the State of California Sea-Level Rise Guidance (Guidance)" [Footnote 25: State of California Sea-Level Rise Guidance (2018 update), available at https://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidancerd3.pdf]. OPC (2018) presented both probabilistic sea level rise projections (framework of Kopp et al. 2014 [Footnote 26) and scenario-based sea level rise projections (H++ extreme sea-level rise	The commenter has provided a statement of opinion regarding the approach used to evaluate climate change in the EIR and cites a number of places throughout Chapter 5, Surface Water, and Appendix 5A, Modeling Technical Appendix, Section A, Modeling Overview, and Appendix 5A, Section B, Hydrology and Systems Operations Modeling, as well as various technical references on climate change. In addition to the information contained in Appendix 5A, the section of Common Response 9, Hydrologic Modeling and Approach, that discusses climate change provides additional discussion how DWR addressed climate change in the modeling. Common Response 6, Climate Resilience and Adaptation, provides an overview of how climate change was addressed throughout the EIR. Please see response to comment 539-92, which addresses how reverse flows near the north Delta diversion are evaluated in the EIR.

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	scenario in the Fourth National Climate Assessment, developed by Sweet et al. 2017 [Footnote 27: Sweet, William V., et al. (2017), Global and regional sea level rise scenarios for the United States (No. CO-OPS 083)]). The Working Group of OPC's Science Advisory Team (OPC-SAT) concluded that the scenario-based (H++ extreme sea-level rise scenario) needs to be considered alongside the probabilistic sea-level rise projections. Kopp et al. (2014) predicted the sea level rise based on the comprehensive probability distributions for several climate scenarios. However, Sweet et al. (2017) maintained a scenario-based approach but drew upon the Kopp et al. (2014) framework to localize projections and to discuss the likelihood of scenarios under different emissions pathways. Sweet et al. (2017) also developed an "extreme" scenario, which assumed rapid ice sheet loss in the Antarctic Ice Sheet in both local and global sea-level rise projections. At this point, the probability of the H++ scenario occurrence is not known, and it is not clear when the world may shift to the H++ trajectory (OPC, 2018). Table 3 presents the projected sea level rise (in feet) based on probabilistic projections as well as the H++ scenario for San Francisco [Footnote 28: State of California Sea-Level Rise Guidance (2018 update), at p. 18].	
539-117	[ATT 3] [Exhibit 11 of Attachment 3: Projected sea level rise (feet) for San Francisco. Source: State of California Sea-Level Rise Guidance (2018 update), Page 18.]	The commenter provided this attachment for reference purposes in support of their comments. The referenced table provided by the commenter illustrates projected sea level rise for San Francisco using 2018 data derived from State of California Sea-Level Rise Guidance. The comment does not provide new information, raise a significant environmental issue relating to the proposed project, or address the adequacy, accuracy, or completeness of the EIR, and thus no further response is required. DWR has reviewed all comments and will consider all

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		comments in its decision-making process.
539-118	[ATT 3] DWR noted that, "Guidance recommends considerations of extreme H++ scenario for projects with a lifespan beyond 2050 that have a low tolerance for risk or are critical assets. Therefore, H++ sea level rise projections were used for the climate change analysis. The Delta Conveyance Project, if approved, is expected to become operational around 2040. Therefore, for the Draft EIR, an integrated operational analysis of the project was conducted for the year 2040 (climate period 2026-2055). The H++ sea level rise projection at 2040 is 1.8 feet. Additionally, a sensitivity analysis was conducted for the Draft EIR for the No Project Alternative and proposed project for a sea level rise of 0.5 feet by 2040, corresponding to a 66% probability of occurrence... For the design of project facilities, the H++ sea level rise projection of 10.2 feet at year 2100 was assumed." [Footnote 29: Draft EIR, Appendix 5A, Section B, at p. B-50]. Table 3 [Exhibit 11 of Attachment 3] indicates that there is a 66% probability that sea level rise in 2040 will be between 0.5-0.8 ft. As noted in Table 4 [Exhibit 12 of Attachment 3], for the year 2040, a sea level rise of 1.3 feet has a 0.5% probability (i.e., a 1-in-200 likelihood). The probability of the H++ scenario, with 1.8 ft of sea level rise in 2040, is unquantified but is significantly less than 0.5%.	The commenter cites text from the Sea Level Rise section of Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, but does not provide new information, raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the EIR, and thus no further response is required. DWR has reviewed all comments and will consider all comments in its decision-making process.
539-119	[ATT 3] [Exhibit 12 of Attachment 3: Reproduced from Table 5A-B.-9 at p. B-40 of Appendix 5A, Section B Modeling Technical Appendix -- Hydrology and Systems Operations Modeling]	The commenter is providing this exhibit in support of their comments. The referenced table is a reproduction of the table titled Sea Level Rise Projections at San Francisco in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, and does not

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		provide new information, raise a significant environmental issue relating to the proposed project, or address the adequacy, accuracy, or completeness of the EIR, and thus no further response is required. DWR has reviewed all comments and will consider all comments in its decision-making process.
539-120	[ATT 3] Comment 6.1 DWR conducted CalSim 3 sensitivity modeling for multiple sea level rise scenarios, but did not model conditions in the Delta for the same scenarios As noted above [comment 118], there is a 66% likelihood of 0.5-0.8 ft of sea level rise in 2040 and a 0.5% probability of 1.3 ft of sea level rise in 2040. These represent reasonably foreseeable conditions, whereas the probability of 1.8 ft of sea level rise in 2040 is so small that it is unquantified. DWR performed CalSim3 and SCHISM model simulations for 0.5 ft of sea level rise and for two alternative versions of 1.8 ft of sea level rise [Footnote 30: Email exchange between Ms. Kathryn Icelow of DWR and Exponent staff on September 23, 2022]. DWR did not perform Calsim 3 simulations for 1.3 ft of sea level rise. As noted previously, Calsim 3 model output was used as input to the DSM2 model. However, DWR performed DSM2 model simulations for only 1.8 ft of sea level rise. DWR did not simulate hydrodynamics or water quality within the Delta for 0.5 ft of sea level rise in 2040, and DWR did not use Calsim 3 or DSM2 to evaluate conditions with 1.3 feet of sea level rise. In our opinion, it is important that DWR evaluate the impacts of the proposed project for a reasonably foreseeable change in sea level, rather than only an extreme scenario that is so unlikely that its probability is not quantified. Because DWR used Calsim 3 to simulate 0.5 ft of sea level rise, it appears that DWR has the input data needed to perform DSM2 simulations	The Sea Level Rise section of Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, describes the assumptions used to frame the analysis of sea level rise scenarios presented in the EIR. The Sea Level Rise Assumptions and Sensitivity Analysis Results sections of Appendix 30A, CalSim 3 Results Sensitivity to 2040 Climate Change and Sea Level Projections, describe these assumptions with respect to the results of a sensitivity analysis that compared the No Project Alternative 2040 with Alternative 5 using three scenarios as illustrated in multiple figures; beginning with the figure titled Shasta End-of-Month Storage (S_SHSTA), Exceedance Probability for Monthly Average End-of-Month Storage (thousand acre-feet) for May, No Project Alternative and Alternative 5 (2040); 2040 and ending with the figure titled Rock Slough Salinity (RS_EC_MONTH), Monthly Average EC (UMHOS/CM), No Project Alternative and Alternative 5 (2040). The commenter alleges without any evidence that the climate change assumptions used in the EIR somehow are masking the potential impacts. The EIR evaluates Delta Conveyance Project incremental impacts under both 1.8-ft sea level rise and 0.5-ft sea level rise projections using CalSim 3 as shown in Appendix 30A. Given the similarities in the CalSim 3 results for both the 1.8-ft and 0.5-ft sea level rise scenarios, it was determined that the DSM2 simulation of the 0.5-ft sea level rise scenario was not required.

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	for this condition but elected not to do so. Simulating both a no-project and project alternative water quality conditions with the reasonably foreseeable 0.5 ft of sea level rise would allow Regional San to evaluate the impacts of the proposed DCP project under reasonably foreseeable conditions.	
539-121	[ATT 3] Comment 6.2 In choosing the H++ model scenario with 1.8 feet of sea level rise, DWR chose an extremely unlikely scenario that generated unexplained results and that may mask the likely impacts of the proposed project. As noted in Comment 6.1 [comment 120], DWR elected to simulate hydrodynamics and water quality within the Delta for 1.8 ft of sea level rise, but DWR did not simulate Delta conditions for lower (more likely) values of sea level rise. Figure 9 [Exhibit 13 of Attachment 3] below shows the exceedance probabilities for electrical conductivity (a measure of salinity) in the Sacramento River at Emmaton for the existing no-project condition (Table 9G-1-1-1, top) and for the 2040 no-project condition (Table 9L.-6-1-1- 1, bottom). [Footnote 31: Draft EIR, Table 9G-1-1-1 was reproduced from p. 9G-9 of Appendix 9G. Table 9L.6-1-1-1 was reproduced from p. 9L6-4 of Appendix 9L.] Figure 9 indicates that salinities are simulated to increase significantly at this location in most months of most water year types as a result of sea level rise; both increases in salinity and absolute values of salinity are greatest in the summer and fall months.	Please see Common Response 9, Hydrologic Modeling and Approach, regarding modeled representation of future conditions and climate change, specifically the discussion on use of the H++ scenario to represent sea level rise. Please see Common Response 6, Climate Resilience and Adaptation, which provides an overview of how climate change was addressed throughout the EIR. Project operations under climate change and sea level rise are evaluated in Chapter 30, Climate Change, and in Appendix 4A, Consideration of 2070 Conditions. This chapter and appendix conclude the project impacts remain similar under the various modeled sea level rise conditions. The commenter alleges without any evidence that the climate change assumptions used in the EIR somehow are masking the potential impacts. The EIR evaluates Delta Conveyance Project incremental impacts under both 1.8-ft sea level rise and 0.5-ft sea level rise projections using CalSim 3 as shown in Appendix 30A, CalSim 3 Results Sensitivity to 2040 Climate Change and Sea Level Projections. Given the similarities in the CalSim 3 results for both the 1.8-ft and 0.5-ft sea level rise scenarios, it was determined that the DSM2 simulation of the 0.5-ft sea level rise scenario was not required.
539-122	[Exhibit 13 ATT 3: Monthly average electrical conductivity in the Sacramento River at Emmaton for the No Project, Existing Condition Alternative (top two panels) and for the No Project, 2040 Alternative (bottom two panels). Reproduced from EIR Appendix 9G, page 9G-9. and Appendix9L, page 9L.6-4.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.

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539-123	[ATT 3:] The Draft EIR also includes simulation results for EC in the San Joaquin River at Jersey Point for the No Project Condition. These data are reproduced in Figure 10 [Exhibit 14, Attachment 3], which shows monthly average EC in San Joaquin River at Jersey Point for the existing no-project condition (Table 9G-5-1-1, top) and for the 2040 no-project condition with 1.8 ft of sea level rise (Table 9L.-6-5-1-1, bottom). [Footnote 32: Draft EIR, Table 9G-5-1-1 was reproduced from p. 9G-33 of Appendix 9G. Table 9L.6-5-1-1 was reproduced from p. 9L.6-28 of Appendix 9L.] Curiously, the data in Figure 10 indicate that EC in the San Joaquin River at Jersey Point is generally lower (i.e., fresher) in the months of May, June, July, and August with 1.8 ft of sea level rise than in the existing condition with no sea level rise. Because Jersey Point is located in the western Delta, it is prone to saltwater intrusion from the Bay. Saltwater from the Bay should enter the Delta in larger quantities with sea level rise than without it; the apparent freshening at this location is contrary to results for the Sacramento River at Emmaton, which is nearby and which shows higher salinity as a result of 1.8 ft of sea level rise. The reason for the apparent freshening of water in the San Joaquin River at Jersey Point during the dry months as a result of sea level rise is unclear [Footnote 33: As discussed in Comment 6.3, this apparent error may be related to either the DSM2 boundary condition for EC at Martinez or to the adjusted dispersion coefficients used in the DSM2 model.], and should be checked and discussed by DWR.	The commenter incorrectly assumes that the salinity at Jersey Point in their Figure 11 is only showing changes due to sea level rise. The modeled lower electrical conductivity (EC) levels for the San Joaquin River at Jersey Point under the No Project Alternative (at 2040) relative to existing conditions (at 2020) are due to the operational response of the Central Valley Project (CVP) and State Water Project (SWP) to the climate change hydrology and sea level rise. As shown in Appendix 5A, Modeling Technical Appendix, Section F, Sea Level Rise and Delta Water Quality Modeling, in the figure titled June 1-14 Average Salinity Change Respectively in the 1.8 feet, 2.7 feet, 3.5 feet 5.2 feet, 6.9 feet, and 10.2 feet SLR Cases, salinity at both Emmaton and Jersey Point are expected to increase with sea level rise without operational Delta inflow changes in response to the increases in salinity. The influence of sea level rise will be greatest in the Sacramento River at Emmaton, as shown in the figure, hence the higher EC under the No Project Alternative relative to existing conditions. As such, Emmaton becomes the more frequent control point for CVP and SWP operations under the No Project Alternative. Delta outflow is higher, as shown in Chapter 6, Water Supply, table Summary of Annual Delta Outflow and Exports October–September under the No Project Alternative (2040 Hydrology) as Compared to Existing Conditions (2020 Hydrology). Concurrently, CVP and SWP Delta exports are lower under the No Project Alternative, as shown in the same table. The combination of these factors leads to EC in the Sacramento River at Emmaton being higher under the No Project Alternative while the San Joaquin River at Jersey Point is lower, relative to existing conditions.
539-124	[ATT 3:] Because the change in background salinity caused by sea level rise at two relatively close locations in the western Delta is	Please see response to comment 539-123 regarding the salinity differences at Emmaton and Jersey Point.

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	inconsistent (see Figures 9 and 10 [Exhibits 13 and 14 of ATT 3]), it is difficult to understand how Delta water quality will change as a result of sea level rise. Likewise, it is difficult to understand the impact of the proposed project under the sea level rise scenario.	
539-125	[ATT 3:] Further, as noted above [comment 121], DWR elected to simulate water quality within the Delta for a sea level rise scenario of 1.8 ft, which has a probability of occurrence that could not be quantified but is much less than 0.5%. This scenario does not represent a reasonably foreseeable condition and results in larger changes in background salinity than would occur for more probable levels of sea level rise, which also makes it difficult to understand the impact of the proposed project for future scenarios.	Please see response to comment 539-121 regarding the sea level rise scenarios modeled. As noted in Appendix 30A, CalSim 3 Results Sensitivity to 2040 Climate Change and Sea Level Projections, a lower level of sea level rise of 0.5 foot was also evaluated to determine if CalSim 3 results would be substantially different, which they were not.
539-126	[ATT 3:] [Exhibit 14 ATT 3: Monthly average electrical conductivity in the San Joaquin River at Jersey Point for the No Project, Existing Condition Alternative (top two panels) and for the No Project, 2040 Alternative (bottom two panels). Reproduced from EIR Appendix 9G, page 9G-33. and Appendix 9L, page 9L.6-28.]	The commenter Is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-127	[ATT 3] Comment 6.3 DWR's methodology for modeling salinity for scenarios with sea level rise is unclear. DWR's DSM2 model, which simulates hydrodynamics and water quality within the Delta, was calibrated by comparing simulated water levels and salinity within the Delta to measured, historical values. Because future sea level rise has	The Artificial Neural Network (ANN) section of Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, states, "The ANN is calibrated or trained on DSM2 results that may represent historical or future conditions using a full-circle analysis." The Sea Level Rise section of Appendix 5A, Section B describes the procedure used to adjust/train/corroborate DSM2 to recognize the hydrodynamic-salinity response in the Delta under sea level rise conditions. As described in the EIR, SCHISM 3-dimensional model was used to estimate

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	not yet occurred and observations of it do not yet exist, it is not possible to use the same calibration methodology for future conditions. To adjust the DSM2 model to simulate sea level rise, DWR simulated sea level rise conditions using SCHISM, a 3-D model that includes the Delta, San Francisco Bay, and a portion of the Pacific Ocean. Specifically, the SCHISM model was used to simulate 1.8 ft of sea level rise for a 689-day period extending from February 10, 2009, through December 31, 2010 [Footnote 34: Draft EIR Appendix 5A, Section F.4.2. DWR also simulated increments of sea level rise up to and including 10.2 ft of sea level rise]. According to Appendix 5A, Section F, "Hydrodynamics and salinity from the 20-month period (5/1/2009 to 12/31/ 2010) were used to characterize salinity responses to sea level rise in the Delta and for use in lower-dimension model training." [Footnote 35: Draft EIR, Appendix 5A, Section F, at p. F-4]. However, DWR has not described how the results of the SCHISM model were used to "train" the DSM2 model. Further, the SCHISM simulation period includes the latter portion of WY2009 (classified as dry in the Sacramento River Basin and below normal in the San Joaquin River basin), WY 2010 (below normal/above normal), and the first three months of WY 2011 (wet/wet) [Footnote 36: https://cdec.water.ca.gov/reportapp/javareports?name=WSIHIST. Accessed on Oct 21, 2022]. The SCHISM simulation period did not include critically dry year types, when salinity intrusion in the Delta is greatest. Of note, California's Water Supply Strategy also notes that DWR estimates a 10% reduction in water supply by 2040 [Footnote 37: https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/CA-Water-Supply-Strategy.pdf].	the potential hydrodynamic and salinity conditions in the Bay-Delta and changes to hydrodynamic/salinity transport processes under the sea level rise conditions. The SCHISM results were used to corroborate DSM2 to ensure DSM2 is able to simulate the proper flow-salinity response in the Delta under sea level rise conditions. This corroborated DSM2 was then used to train the ANN. DWR has described and validated components like the Artificial Neural Networks (California Department of Water Resources 2023). The time period simulated in SCHISM and used to corroborate DSM2 includes large variation of Delta inflows and exports. While it may not capture the full range of Delta inflows, it is sufficient duration to parameterize the hydrodynamics and salinity transport response to sea level rise in the DSM2.

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539-128	[ATT 3] Both the Draft EIR and our evaluation of DSM2 boundary conditions for a sea level rise of 1.8 ft show that the stage (water level) at Martinez was uniformly shifted upward by 1.8 ft relative to the existing condition model runs [Footnote 38: "For all the future 2040 studies, Martinez tide estimates for 2020 were adjusted by 1.8 feet (55 centimeters) to represent sea level rise (see Section C.6.2, Incorporating Sea Level Rise Effects in DSM2 Planning Simulations)." (Draft EIR, Appendix 5A, Section C.5.2, at p. C-12.)]. The downstream boundary condition at Martinez for EC (a measure of salinity) was apparently derived by DWR using a regression equation developed by DWR from the SCHISM model results [Footnote 39: Draft EIR, Appendix 5A, Section C.6.2., at p. C-14]. Although DWR stated, "DSM2 model results were corroborated for the assumed sea level rise using SCHISM results," [Footnote 40: Draft EIR, Appendix 5A, Section C.6.3, at p. C-15] it is unclear how the "corroboration" was performed, as the details of this analysis do not appear to be described within the Draft EIR. Additionally, DWR adjusted dispersion coefficients for seven channels in the Western Delta in DSM2 to improve the fit between DSM2 simulation results and SCHISM model results, but DWR has not described the adjusted dispersion coefficients within the Draft EIR.	Please refer to response to comment 539-127 regarding a discussion of the Artificial Neural Network (ANN), the use of SCHISM to corroborate DSM2 to ensure DSM2 is able to simulate the proper flow-salinity response in the Delta under sea level rise conditions, and the use of corroborated DSM2 to train the ANN, all of which are discussed in Appendix 5A, Section B.
539-129	[ATT 3] The Draft EIR also notes DWR used the SCHISM model results to update the artificial neural network (ANN) used by CalSim 3 to simulate salinity within the Delta. CalSim 3 is the main model used to simulate the operations of the proposed project. Although it is not clearly described, it appears that DWR (1)	Please refer to response to comment 539-127 regarding a discussion of the Artificial Neural Network (ANN), the use of SCHISM to corroborate DSM2 to ensure DSM2 is able to simulate the proper flow-salinity response in the Delta under sea level rise conditions, and the use of corroborated DSM2 to train the ANN, all of which are discussed in Appendix 5A, Section B. The time period simulated in SCHISM and used to corroborate DSM2 includes large variation of Delta inflows and exports. While it may not capture the full range of Delta inflows, it is sufficient duration to parameterize the

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	used SCHISM to simulate conditions within the Delta under various sea level rise scenarios for a 689-day period of 5/1/2009 to 12/31/2010; (2) used the SCHISM simulation results for this period to derive a regression equation describing EC at the DSM2 boundary at Martinez; (3) used this regression equation within DSM2 to simulate a longer time period (1923-2015) [Footnote 41: Draft EIR, Appendix 5A, Section C.6.3, at pp. C-15 to C-16]; and then (4) used DSM2 model output to train the ANN used by CalSim 3 to simulate project operations for scenarios and alternatives involving future sea level rise. However, the details of this analysis are not provided. In summary, DWR has not provided data and information describing the analyses and assumptions that were made, or the impact of their modeling decisions on the ability of the models to simulate conditions under climate change. Further, as noted in Comment 6.2 [comments 121-126], DWR's DSM2 model results describing salinity in portions of the western Delta, including in the San Joaquin River at Jersey Point, show a freshening of the Delta in the summer and fall months as a result of sea level rise, a result that is not credible without additional explanation.	hydrodynamics and salinity transport response to sea level rise in the DSM2. The modeled lower electrical conductivity (EC) levels for the San Joaquin River at Jersey Point under the No Project Alternative (at 2040) relative to existing conditions (at 2020) are due to the operational response of the Central Valley Project (CVP) and State Water Project (SWP) to the combination of climate change hydrology and sea level rise. The influence of sea level rise will be greatest in the Sacramento River at Emmaton, hence the higher EC under the No Project Alternative relative to existing conditions. As such, Emmaton becomes the control point for CVP and SWP operations under the No Project Alternative. Delta outflow is higher, as shown in Chapter 6, Water Supply, table titled Summary of Annual Delta Outflow and Exports October–September under the No 1 Project Alternative (2040 Hydrology) as Compared to Existing Conditions (2020 Hydrology). Concurrently, CVP and SWP Delta exports are lower under the No Project Alternative, as shown in the same table. The combination of these factors leads to EC in the Sacramento River at Emmaton being higher under the No Project Alternative while the San Joaquin River at Jersey Point is lower, relative to existing conditions.
539-130	[ATT 3] Finally, DWR failed to conduct SCHISM modeling for the full range of foreseeable conditions, and most notably did not simulate critically dry conditions. The failure to model the response of the Delta estuary during critically dry conditions carried through to both the DSM2 and CalSim 3 models, such that it is not clear that the system of models is capable of simulating hydrodynamics and salinity within the Delta, or the operation of the proposed project, over the range of conditions	Please refer to response to comment 539-127 regarding a discussion of the Artificial Neural Network (ANN), the use of SCHISM to corroborate DSM2 to ensure DSM2 is able to simulate the proper flow-salinity response in the Delta under sea level rise conditions, and the use of corroborated DSM2 to train the ANN, all of which are discussed in Appendix 5A, Section B. Please also refer to response to comment 539-129 regarding the large variation of Delta inflows and exports in the time period simulated in SCHISM and used to corroborate DSM2.

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	expected to occur with climate change in the future.	
539-131	[ATT 3] Comment 6.4 DWR's analysis of in-Delta impacts in 2040 is incomplete, as DWR did not evaluate WQ impacts of levee overtopping or breaches. As noted above [comments 121-126], DWR used DSM2 to simulate hydrodynamics and water quality within the Delta for a model scenario involving 1.8 ft of sea level rise. As a result of sea level rise at the western boundary of the Delta, water levels within the Delta were higher than in the model runs describing the existing condition model scenarios. Figure 11 [Exhibit 15 of ATT 3], which was created by Exponent using DWR's DSM2 results, shows the simulated water surface elevations for the scenario with 1.8 ft of sea level rise and for existing conditions, and the difference in water surface elevation between the two scenarios. As shown in Figure 11, the stage at Martinez is uniformly 1.8 ft higher for the sea level rise scenario than for existing conditions. The difference between stage at other locations varies a bit with the tidal cycles and ranges from about 1.2 ft at Freeport to 1.8 ft at Prisoner's Point to about 1.9 ft in Old River at Highway 4. Thus, as expected, both average and peak water surface elevations will be significantly higher throughout the Delta with 1.8 ft of sea level rise compared to existing conditions. However, DWR has not evaluated or disclosed the increased potential for levee failures and overtopping that would result from significantly higher stage within the Delta, or the significant water quality changes that would occur under these circumstances. These effects necessarily affect the baseline conditions against which Project impacts must be assessed.	Chapter 7, Flood Protection, provides a detailed discussion of the existing condition (baseline conditions), regulatory setting and environmental impacts consistent with CEQA requirements. As illustrated in the table titled Comparison of Reference Years Used for Flood Protection Impact Analysis the two impact statements developed for this chapter are consistent with CEQA Guidelines. The section in Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, that discusses purpose appropriate scope of project objectives and agency discretion provides additional information on the objectives of the project. Although flood control is not a stated project objective, the project would not affect ongoing flood-control improvements and flood-control responses occurring with the Delta. While the commenter suggests that there may be a relationship between future sea level rise, potential levee failure, and future water quality impacts, this is speculative and not definable as a foreseeable action. The analysis performed in the EIR indicates that Delta Conveyance Project operations do not increase the flooding risk or significantly impact water quality in the Delta compared to without project conditions under a range of hydrologic and sea level rise conditions.

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	Without accounting for these reasonably foreseeable future baseline conditions under the Draft EIR's assumed sea level rise scenario, DWR's evaluation of the Project impacts of 1.8 ft of sea level rise is deficient, including DWR's evaluation of water quality within the Delta and the operations of the proposed project that would occur under a levee failure scenario.	
539-132	[ATT 3] [Exhibit 15 of ATT 3: Simulated water surface elevation (stage) at select locations in the Delta (June 1-14, 1987) for the model scenario with 1.8 ft of sea level rise (green line) and for the existing conditions scenario (red line). The increase in water surface elevation is shown in blue.]	The commenter Is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-133	[ATT 3] Comment 6.5 DWR's analysis of the proposed project for 2100 did not consider water quality impacts of sea level rise. DWR simulated a scenario describing 10.2 ft of sea level rise in the year 2100, corresponding to the H++ climate scenario. Based on its modeling, DWR concluded that "intakes in the north Delta were found to not be vulnerable to future salinity intrusion conditions evaluated under the H++ scenario at year 2100." [Footnote 42: Draft EIR, Chapter 30, at p. 30-23] (emphasis in original). DWR also noted that "the intake facilities are designed to accommodate water level elevations corresponding to 10.2 ft sea level rise and 200-year flood flows under climate change conditions projected for the end of the century." [Footnote 43: Draft EIR, Appendix 5A, Section F.2]. DWR's modeling of the scenario involving 10.2 ft of sea level rise was conducted using output from the SCHISM model for the time period between May 2009 and December 2010. [Footnote 44: Draft EIR, Appendix 5A, Section F.4.2, at p. F-4]	The Introduction section of Appendix 5A, Modeling Technical Appendix, Section F, Sea Level Rise and Delta Water Quality Modeling, describes how the SCHISM Sea Level Rise Study investigates how Delta water quality changes under seven sea level rise assumptions. The range of sea level rise increments considered span from 1.8 feet (ft) to 10.2 ft. The SCHISM assessment acknowledges the vulnerability of the central and western Delta to salinity intrusion caused by sea level rise and additional water may be required to meet current salinity requirements. In addition, the assessment bracketing approach of 1.8 ft to 10.2 ft of sea level rise confirmed that the proposed north Delta diversion intakes would not be vulnerable to salinity intrusions. The SCHSIM assessment also included a scenario where the salinity intrusion was encouraged artificially to simulate a "worst case" condition with 10.2 ft of sea level rise. It also included significant addition of tidal prism compared to the current bathymetry. Under all the scenarios evaluated using SCHISM, the salinity at the proposed intakes remained fresh. The comment appears to disagree with the "glass wall" approach used to model sea level rise and provides three figures prepared by their consultant intended to support the comment that focus on levees

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	With 10.2 ft of sea level rise at the Golden Gate and at the western boundary of the Delta, water levels within the Delta would rise by a comparable amount. However, it appears that DWR assumed that the Delta levees would not overtop, even with 10.2 ft of sea level rise, such that water would be retained within the current channel areas and would not overflow into the land areas adjacent to the Delta channels. DWR referred to its approach as a "'glass wall' approach that assumes the existing levee elevations would keep up with increasing sea levels." [Footnote 45: Draft EIR, Appendix 5A, Section F.6, at p. F-11]. In effect, DWR assumed that the Delta channels have vertical walls that extend well above the current levee heights. However, the levees within the Delta have an elevation lower than the water level simulated with 10.2 ft of SLR. For example, Figure 12 [Exhibit 13 of ATT 3] shows the elevation of Bethel Island. The levee surrounding Bethel Island has an elevation of about 17 ft. Figure 13 [Exhibit 17 of ATT 3] shows the existing condition (without sea level rise) model results for a two-week period in February 1998. To approximate the water surface elevations for a model scenario with 10.2 ft of sea level rise, we added 10.2 ft to the simulated stage for the existing condition; Figure 13 shows that simulated water levels would overtop the Bethel Island levees during most of the high tides that occur during this two-week period. We also note that most of the levees within the Delta are un-engineered, earthen levees [Footnote 46: https://news.berkeley.edu/2010/04/20/delta/]. As such, they are designed to have freeboard, as overtopping of earthen levees causes catastrophic failure. Thus, the true measure of risk is not whether water levels within the Delta will exceed the	surrounding Bethel Island, a single feature in the Delta. However, the comment does not provide new information, raise a significant environmental issue relating to the proposed project, or address the adequacy, accuracy, or completeness of the EIR and thus no further response is required. For a discussion of modeling and lack of assumptions regarding levee failure under sea level rise please see Common Response 9, Hydrologic Modeling and Approach, and Common Response 10, Surface Water Quality and Groundwater Resources.

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	height of the levees, but whether sufficient freeboard can be maintained to protect the structural integrity of the levees.	
539-134	[ATT 3] [Exhibit 16 of ATT 3: Bethel Island elevation map. Data from USGS National Map 3DEP 1-meter Digital Elevation Models.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-135	[ATT 3] [Exhibit 17 of ATT 3: Simulated stage near Bethel Island under existing condition, and estimated stage after considering a 10.2 ft sea level rise. Brown line is the maximum elevation of the levee surrounding Bethel Island]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-136	[ATT 3] Further, across the majority of the Delta, the land surface elevations of the Delta islands (i.e., the land surfaces inside the levees) are well below sea level (see Figure 14 [Exhibit 18 or attachment 3]) [Footnote 47: USGS National Map 3DEP 1-meter Digital Elevation Models. Data available at: https://www.usgs.gov/3delevation-program], [Footnote 48: California Department of Fish and Game, 2011. Delta Vegetation and Land Use - 2011 [ds292] Unless levees were raised significantly (which is not contemplated as part of the proposed project), 10.2 ft of sea level rise would greatly increase the risk of levee overtopping and/or failure, and large volumes of water would enter the Delta and fill the Delta islands, greatly increasing the volume of water within the Delta. Except during exceptionally wet outflow conditions, more saline Bay water would flow into the interior of the Delta, and water quality in the interior of Delta would be far different and frequently much more saline than simulated by DWR using the SCHISM model. Because DWR did not simulate the overtopping of levees within the Delta and the flow of water across the Delta	Please see response to comment 539-133 regarding levees and sea level rise.

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	landscape that would occur with this magnitude of sea level rise, it did not and cannot accurately estimate the future baseline water quality conditions that would result from 10.2 ft of sea level rise. As a result, DWR has not and cannot evaluate Project impacts, the project's ability to meet DWR's stated objectives for reliability and water quality benefits, or the structural or operational viability of the proposed intake facilities. Thus, even if proposed intakes were able to withstand 10.2 ft of sea level rise from an engineering point of view (i.e., if they were able to operate at these water levels), DWR has not evaluated whether or how often water quality at the proposed intakes would be suitable for diversion or disclosed how project operations would change (e.g., would the South Delta pumps be abandoned, and all SWP pumping occur at the North Delta Diversion?) and the impacts of such a reasonably foreseeable change. Indeed, DWR noted that "there remains uncertainty over the degree of salinity intrusion for a specific sea level rise assumption because many issues that affect model results were not addressed in the Study, e.g., levee failure, changes in water use, continued dredging of the ship channels, changing morphology, island flooding, and potential landscape level defenses." [Footnote 49: Draft EIR, Appendix 5A, Section F.2, at pp. F-1 and F-2]. DWR's SCHISM modeling for sea level rise [Footnote 50: As noted above, DWR evaluated the project for increments of sea level rise ranging from 1.8 ft to 10.2 ft. DWR did not evaluate the potential for widespread levee overtopping or failure, or the consequent changes to hydrodynamics and water quality, for any of these scenarios] has not considered the actual	

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	physical geometry of the Delta, instead assuming that water would remain within the Delta channels as if they had tall, vertical walls. For this reason, DWR's analysis of future conditions with sea level rise is flawed and unreliable, and cannot be used to conclude that the proposed project would be able to operate with this level of sea level rise. For a project of the magnitude and importance of the DCP, it is vital and technically feasible to perform such an evaluation to support informed decision-making regarding the viability and performance of the project under reasonably foreseeable conditions.	
539-137	[ATT 3] [Exhibit 18 of ATT 3: Land surface elevations within the Delta. Data from USGS National Map 3DEP 1-meter Digital Elevation Models and California Department of Fish and Game, 2011. Delta Vegetation and Land Use --2011]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-138	[ATT 3] Comment 6.6 DWR's assumption of stationarity is flawed. As noted in the Draft EIR, "The inflow hydrology for the existing conditions model is based on assumptions of stationarity. However, while there has been no obvious trend in total water year runoff into the Sacramento and San Joaquin Rivers, there have been changes in the timing of that runoff. The fraction of snowmelt runoff between April and July relative to total year-round water runoff has declined over the past century (California Department of Water Resources 2016). Additionally, as the climate continues to warm it is expected to increase variability in precipitation." [Footnote 51: Draft EIR, Appendix 5A, Section B, at p. B-65] (emphasis added).	The commenter's statement regarding DWR's assumption that stationarity is flawed is not supported by the analysis and climate change assumptions provided in the EIR. Assumptions regarding the hydrologic modeling, including stationarity, are outlined in Appendix 5A, Modeling Technical Appendix, Section A, Modeling Overview, and Section B, Hydrology and Systems Operations Modeling. Additional information regarding how climate change was addressed in the EIR, and stationarity in particular, is discussed in Common Response 9, Hydrologic Modeling and Approach. The CalSim 3 model included recent historic hydrologic conditions. As noted in the Draft EIR Appendix 5A, Section B, Attachment 4, Climate Change Development for Delta Conveyance Process, the water year types under the 2040 scenario have been revised to reflect the projected runoff under the 2040 scenario. None of the revisions to Appendix 5A, Section B, Attachment 4, resulted in a new significant environmental impact or substantial increase in the severity of an environmental impact or required

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	Stationarity has been defined as the assumption that "the statistical properties of hydrologic variables in future time periods will be similar to past time period." [Footnote 52]: U.S. Army Corps of Engineering, Workshop on Nonstationarity, Hydrologic Frequency Analysis, and Water Management. See https://www.usace.army.mil/corpsclimate/Climate_Preparedness_and_Resilience/Hydrology_Support_Adaptation/nonstation_workshop/]. However, this assumption is unwarranted, and scientific literature (as noted below [comments 139-142]) suggests DWR would be wise to consider and plan for hydrologic changes already underway as a result of climate change.	additional mitigation measures to which DWR was unwilling to commit.
539-139	[ATT 3] DWR's climate analysis is flawed in two primary ways: first, DWR's hydrology analysis in the Draft EIR assumes that the hydrology observed over the simulation period of 1921-2015 is representative of the "existing condition," even though long-term changes in hydrology due to climate change are well underway, and even though a key rationale for the project is the ability to respond to hotter, drier conditions by diverting more river flow in winter months. Thus, DWR has assumed that the hydrology (rainfall, river flows, etc.) observed in the early years of the simulation period are equally likely to recur, without adjustment, as more recent years within the 2020 "existing condition" baseline used in the Draft EIR.	The comment expresses concerns that the hydrologic modeling assumptions outlined in Appendix 5A, Modeling Technical Appendix, Section A, Modeling Overview, and Section B, Hydrology and Systems Operations Modeling, do not adequately represent future changes in climate conditions. The hydrologic analysis is not flawed and was based on the best available information and recognized tools available when the environmental impact analysis was conducted. Also, as the comment notes, the simulation period includes more recent years. Common Response 9, Hydrologic Modeling and Approach, provides additional information regarding how climate change factors were considered in the analysis.
539-140	[ATT 3] Second, DWR has assumed that the 1921-2015 hydrologic sequence is likely to recur in the future (e.g., 2040), despite the changes underway due to climate change. Although DWR has adjusted river flows and other hydrologic variables to reflect expected changes in temperature (e.g., resulting in the loss of	Please see response to comment 539-139 regarding the hydrologic modeling and approach.

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	snowpack and higher river flows in the winter months, and lower flows in summer and fall months), these changes are imposed upon the same water years within the 1921-2015 simulation period. The relative ratio of wet years, critical years, etc., within the simulation period has not been adjusted. In other words, DWR uses a single, historical hydrologic period to represent both existing and future conditions. However, recent scientific research indicates that hydrologic patterns are shifting due to climate change. For example, Swain et al. (2018) found that, "Anthropogenic forcing is found to yield large twenty-first century increases in the frequency of wet extremes, including a more than threefold increase in sub-seasonal events comparable to California's 'Great Flood of 1862. Smaller but statistically robust increases in dry extremes are also apparent. As a consequence, a 25% to 100% increase in extreme dry-to-wet precipitation events is projected, despite only modest changes in mean precipitation. Such hydrological cycle intensification would seriously challenge California's existing water storage, conveyance and flood control infrastructure." [Footnote 53: Swain, D.L., B. Langenbrunner, J.D. Neelin, and A. Hall, 2018. Increasing precipitation volatility in twenty-first century California. Nature Climate Change 8, 427-433 (2018). Available at https://www.nature.com/articles/s41558-018-0140-y] Swain et al. (2018) present figures indicating a marked increase in the frequency of extremely wet seasons and extremely dry seasons in the future relative to the preindustrial era (see Figure 15 [Exhibit 19 of ATT 3]). Thus, while the simulation	

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	period of 1921-2015 included a mix of water year types corresponding to historically observed conditions, climate change is likely to increase both the number and frequency of critically dry and wet years. Because DWR has used a fixed observational period, the Draft EIR does not capture these larger shifts in hydrology.	
539-141	[ATT 3] Regarding extremely wet events and the potential for levee overtopping or failure within the Delta, it is also important to note that Swain et al. (2018) report "a substantial increase in the projected risk of extreme precipitation events exceeding any that have occurred over the past century -- meaning that such events would be unprecedented in California's modern era of extensive water infrastructure. Few of the dams, levees and canals that currently protect millions living in California's flood plains and facilitate the movement of water from Sierra Nevada watersheds to coastal cities have been tested by a deluge as severe as the extraordinary 1961-1862 storm sequence -- a repeat of which would probably lead to considerable loss of life and economic damages approaching a trillion dollars. Our results suggest that such an event is more likely than not to occur at least once between 2017 and 2060, and that multiple occurrences are plausible by 2100 on a business-as-usual emissions trajectory. Therefore, recognizing that risks associated with hydroclimatic extremes may rise more rapidly than the gradual projected shift in regional mean precipitation might otherwise suggest will be a critical step in ensuring resilience amid a warming climate." [Footnote 54: Ibid]. However, the Draft EIR does not contemplate the impact of	Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools, modeled representation of future conditions and climate change, modeled representation of CEQA baseline existing conditions, and climate change assumptions as input into hydrologic model. The hydrologic analysis is not flawed and was based on the best available information and recognized tools available when the environmental impact analysis was conducted. Appendix 9L, Water Quality 2040 Analysis, provides information regarding projected conditions for the project alternatives under the 2040 scenario compared both to the No Project Alternative under the 2040 scenario and the No Project Alternative under the 2040 scenario to existing conditions.

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	these changing hydrologic baselines on water quality within the Delta or on the operation of the proposed project. Nor does the Draft EIR analyze or disclose impacts associated with extreme wet weather events that are likely to occur over the next century. These reasonably foreseeable impacts have the potential to impact both the operation of the proposed project and to influence the future baseline conditions against which the project is evaluated. These impacts are both reasonably foreseeable and represent best available science, and they should be considered before proceeding with construction of a water resources project of this magnitude and importance.	
539-142	[ATT 3] [Exhibit 19 of ATT 3: Change in frequency of extremely wet and extremely dry seasons. Reproduced from Swain et al. (2018)]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-143	[ATT 3:] 7. DWR's method of computing and presenting summary statistics is flawed Based upon inspection of the tables summarizing the statistical distributions of water quality parameters (e.g., Figures 1 and 2) [Exhibits 1 and 2 ATT 3], it appears that DWR calculated statistical distributions for each scenario, then improperly calculated summary statistics describing the incremental change between scenarios as follows: Step 1: use DSM2 to simulate water quality constituent concentrations for each scenario 9e.g., to compute EC in the Sacramento River at Emmaton) Step 2: compute monthly average constituent concentrations for each month in the 95-year simulation period (e.g., the average EC in the Sacramento River at Emmaton for	This comment references tables in the appendices for boron (Appendix 9C, Boron), bromide (Appendix 9D, Bromide), chloride (Appendix 9F, Chloride), electrical conductivity (Appendix 9G, Electrical Conductivity), and organic carbon (Appendix 9I, Organic Carbon) in which the difference between specific percentile concentrations (i.e., 0.1%, 1%, 5%, etc.) under an alternative and existing conditions are calculated. This computation and presentation of modeling output in the appendices to Chapter 9, Water Quality, is correct for its intended use in interpreting modeling results and supporting the impact analysis in Chapter 9. The differences in the concentrations for various identified percentiles of the modeled range of values presented in these tables facilitate interpreting the probability exceedance plots that accompany the tables in the appendices, where differences at specific percentiles must be determined visually. The tables allow for seeing what the exact difference was at percentiles of 0.1%, 1%, 5%, 10%, 25%, 50%, 75%, and 99.9%.

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	every October in the period) Step 3: Compute summary statistics for each month (e.g., determine the exceedance probability [0.1%, 1%, 5%, etc.] for EC in the Sacramento River at Emmaton for all Octobers) (to generate tables such as Table 9G-1-1-1, shown in Figure 1) Step 4: Follow Steps 1-3 for each water quality constituent at each location to generate summary statistics for each for each scenario (e.g., to generate Table 9G-1-6-1 describing EC in the Sacramento River at Emmaton for Scenario 5) Step 5: Compute summary statistics for the difference in EC between each scenario and the existing condition by subtracting the values within the distributions (e.g., subtract the 50% value for Scenario 5 from the 50% value for the existing condition) (e.g., subtract the 50% value for EC at Emmaton for October for existing conditions [1382] from the 50% value for EC at Emmaton for October for Scenario 5 [1640 mmhos/cm], to compute a 50% value for the difference between the scenarios of 258 mmhos/cm, indicating that the median increase in EC at Emmaton would be 258 mmhos/cm) However, this procedure is flawed, and it is meaningless to compute a median (50%) difference that is larger than all the other differences in the statistical distribution. Using the example shown in Figure 16 [exhibit 20 of ATT 3] (reproduced from a portion of Figure 2), it is nonsensical to assert that 50% of the time, the increase in EC will be 258 mmhos/cm, but 75%	

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	of the time, the increase will be -8 mmhos/cm. In fact, probability distributions showing quantiles and other summary statistics must be monotonically increasing; see figure 17 [exhibit 21 of ATT 3]. Rather than following the flawed procedure outlined in Step 5, DWR should have computed the difference in EC at Emmaton (Alternative 5 EC -- existing condition EC) for each month in the simulation period, then should have computed the summary statistical distribution from the 95 values for each month. In other words, DWR should have computed the monthly average EC for Alternative 5 for October 1923 and subtracted the monthly average EC for the existing condition for October 1923, then repeated for all other months, and finally computed the summary statistical distribution from the monthly difference values. DWR should adjust the tables and figures in the Draft EIR to fix this statistical error, in order to provide summary information that accurately reflects the anticipated effects of the proposed	
539-144	[Exhibit 20 ATT 3: Tables 9G-1-6-3 and 9G-1-6-4 from Appendix 9G of the DCP DEIR.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-145	[Exhibit 21 ATT 3: Example of an exceedance probability curve, with values that increase monotonically as a function of probability. Note that the values in the plot do not represent the simulated salinities in Draft EIR.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
539-146	[ATT 3:] 8. The Draft EIR is lengthy and difficult to review, and our comments are not complete As detailed in the citations throughout these comments, the	Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the length and complexity of the EIR. As described in Chapter 4, Framework for the Environmental Analysis, the overall organization, and content of the resource-specific analyses in the

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	Draft EIR is comprised of multiple chapters, many of which have multiple appendices. Analyzing and understanding the operations and potential impacts of the proposed project involved locating information found in many different places throughout the EIR documents. In many cases and as detailed in Comment 1 [comments 92 and 93], we were unable to find the information needed to evaluate the impacts of the proposed project at the City's [Sacramento] facilities, and we needed to review modeling files provided by DWR. Although the comment period for the Draft EIR was extended, we were unable to complete our review of the impacts of the proposed project because of these factors. For example, our review of model results focused on the no-project conditions (2020 and 2040) and Alternative 5; we were unable to review model results for other project alternatives. We anticipate having additional comments on additional issues as we continue to review and evaluate the information contained in the Draft EIR and in the modeling results.	EIR were developed to meet CEQA (Pub. Resources Code § 21000 et seq.) content requirements. The main resources chapters contain the information and analyses for the public and decision makers to conduct a meaningful review. The environmental analyses are presented in a clear, logical manner and do not obfuscate information as the comment asserts. Chapter 3, Description of the Proposed Project and Alternatives, provides a clear and detailed description of the project and alternatives sufficient for environmental review. Additional details regarding methods and modeling results are provided in appendices in instances where it would be too voluminous to include in the main chapter. Please refer to Chapter 35, Public Involvement, regarding the outreach activities conducted during the Draft EIR public review period to help reviewers navigate the document and better understand the technical information provided in the EIR.
539-147	[ATT 1 of ATT 3: Bio and credentials of DR. Susan Paulsen of Exponent-Engineering and Scientific Consulting, who conducted the analysis contained in ATT 3.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.
539-148	[ATT 4] As requested [Kelly Taber, Somach Simmons and Dunn of TR Grovhoug], I have reviewed the portions of the Delta Conveyance Project (DCP) Draft EIR (DEIR) pertaining to water quality impacts in the Delta and have prepared the following information for your use in formulating comments on the DEIR on behalf of Sacramento Regional County Sanitation District (Regional San).	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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539-149	[ATT 4:] Thresholds of Significance Chapter 9, Subsection 9.3.2 presents thresholds of significance that are used to evaluate the water quality effects of the proposed project. In the EIR, water quality effects are deemed to be significant if the proposed project would do any of the following (note that only four of the eight thresholds listed in the DEIR are listed below, with emphasis added): 1. Cause exceedance of water quality objectives, water quality criteria or other relevant thresholds that would result in adverse effects on one or more beneficial uses. 2. Increase levels of bioaccumulative pollutant such that measurably higher body burdens occur in aquatic organisms that result in substantial increases in health risks to wildlife, fish or humans. 3. Cause long-term degradation of water quality that results in substantially increased risk for adverse effects on one or more beneficial uses. 4. Further degrades water quality by measurable levels on a long-term basis for parameters on the 303(d) list such that beneficial use impairment would be made discernibly worse. Serious questions exist regarding the validity of these thresholds and their application in the DEIR. For threshold (1), the exceedance of water quality objectives,	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9, Water Quality.

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	under both the federal Clean Water Act and the California Water Code, constitutes an adverse effect on beneficial uses. In both the federal and California construct, water quality standards and objectives are set at levels which are necessary to protect beneficial uses. As such, they represent the threshold for unacceptable adverse impacts on beneficial uses. A subsequent analysis to determine whether adverse effects would occur, as would be indicated by threshold (1), is unnecessary, is inconsistent with federal and state law, and creates an unwarranted burden of proof.	
539-150	[ATT 4:] Thresholds of Significance Chapter 9, Subsection 9.3.2 presents thresholds of significance that are used to evaluate the water quality effects of the proposed project. In the EIR, water quality effects are deemed to be significant if the proposed project would do any of the following (note that only four of the eight thresholds listed in the DEIR are listed below, with emphasis added): 1. Cause exceedance of water quality objectives, water quality criteria or other relevant thresholds that would result in adverse effects on one or more beneficial uses. 2. Increase levels of bioaccumulative pollutant such that measurably higher body burdens occur in aquatic organisms that result in substantial increases in health risks to wildlife, fish or humans. 3. Cause long-term degradation of water quality that results in substantially increased risk for adverse effects on one or more	Please see response to comment 539-28 regarding Chapter 9, Water Quality, threshold of significance #2 and its application in the impact analysis. Please also see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9.

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	beneficial uses. 4. Further degrades water quality by measurable levels on a long-term basis for parameters on the 303(d) list such that beneficial use impairment would be made discernibly worse. Serious questions exist regarding the validity of these thresholds and their application in the DEIR. For threshold (2), measurable increases in body burdens of bioaccumulative pollutants that already exceed adopted fish tissue objectives would, by definition, make an existing impaired condition worse and would substantially increase health risks. An additional analysis of health risks is unnecessary and is again inconsistent with federal and state law and the basic construct behind enforceable water quality objectives, as noted above.	
539-151	[ATT 4:] Thresholds of Significance Chapter 9, Subsection 9.3.2 presents thresholds of significance that are used to evaluate the water quality effects of the proposed project. In the EIR, water quality effects are deemed to be significant if the proposed project would do any of the following (note that only four of the eight thresholds listed in the DEIR are listed below, with emphasis added): 1. Cause exceedance of water quality objectives, water quality criteria or other relevant thresholds that would result in adverse effects on one or more beneficial uses.	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9, Water Quality.

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	2. Increase levels of bioaccumulative pollutant such that measurably higher body burdens occur in aquatic organisms that result in substantial increases in health risks to wildlife, fish or humans. 3. Cause long-term degradation of water quality that results in substantially increased risk for adverse effects on one or more beneficial uses. 4. Further degrades water quality by measurable levels on a long-term basis for parameters on the 303(d) list such that beneficial use impairment would be made discernibly worse. Serious questions exist regarding the validity of these thresholds and their application in the DEIR. For threshold (3), the determination of what is a "substantially increased risk for adverse effects on beneficial uses" is vague and open to interpretation. For this threshold, the EIR fails to connect it to either the federal or state antidegradation policies, which directly address water quality degradation and are fundamental to the water quality protection offered by the Clean Water Act and California Water Code.	
539-152	[ATT 4:] Thresholds of Significance Chapter 9, Subsection 9.3.2 presents thresholds of significance that are used to evaluate the water quality effects of the proposed project. In the EIR, water quality effects are deemed to be significant if the proposed project would do any of the following (note that only four of the eight thresholds listed in	Please see response to comment 539-30 regarding Chapter 9, Water Quality, threshold of significance #4 and its application in the impact analysis. Please also see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9.

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	the DEIR are listed below, with emphasis added): 1. Cause exceedance of water quality objectives, water quality criteria or other relevant thresholds that would result in adverse effects on one or more beneficial uses. 2. Increase levels of bioaccumulative pollutant such that measurably higher body burdens occur in aquatic organisms that result in substantial increases in health risks to wildlife, fish or humans. 3. Cause long-term degradation of water quality that results in substantially increased risk for adverse effects on one or more beneficial uses. 4. Further degrades water quality by measurable levels on a long-term basis for parameters on the 303(d) list such that beneficial use impairment would be made discernibly worse. Serious questions exist regarding the validity of these thresholds and their application in the DEIR For threshold (4), the stated qualifier that "beneficial use impairment would be made discernibly worse" is legally flawed. For 303(d)-listed parameters, water quality conditions have already been determined to be impaired and in violation of adopted water quality objectives. The federal antidegradation policy (40CFR 131.12(a)) requires that existing beneficial uses be protected as an absolute floor for water quality protection in the waters of the United States. Any measurable degradation above and beyond the existing impaired condition (i.e., exacerbated violation of water quality	

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	objectives) is inconsistent with the federal antidegradation policy and, by definition, an unacceptable and significant impact on beneficial uses.	
539-153	[ATT 4:] Guidance provided in the USEPA Water Quality Standards Handbook, Chapter 4 (pages 4 and 5) states that "if a planned activity will foreseeably lower water quality to the extent that it no longer is sufficient to protect and maintain the existing uses in that water body, such an activity is inconsistent with USEPA's antidegradation policy…". "In such a circumstance, the planned activity must be avoided or adequate mitigation or preventive measure must be taken to ensure that the existing uses and the water quality to protect them will be maintained." As noted below, in assessing the significance of the impact of EC increases in the western Delta, the EIR appears to rely on the "discernibly worse" aspect of threshold (4) to reach a conclusion that such increases are "less than significant" (see Table 9-0, page 9-4). This determination should be revised to "significant" for the reasons stated above [comments 149-152] and for the reasons provided in the comments below [comments 156-158].	Please see Common Response 10, Surface Water Quality and Groundwater Resources, regarding the appropriateness of the thresholds of significance defined in Chapter 9, Water Quality, and Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding the relationship between the State's Antidegradation Policy and the EIR. DWR's thresholds of significance for this project specifically assess impacts on designated beneficial uses of waterbodies. Chapter 9 found that the water quality degradation caused by operations of the project alternatives would result in less than significant impacts on waterbody beneficial uses.
539-154	[ATT 4] Mercury: Chapter 9, page 9-3, lines 12-21: In Chapter 9, DWR states that the Compensatory Mitigation Plan (CMP) (described in Appendix 3F) will yield potentially significant impacts associated with methylmercury and the associated levels of methylmercury in Delta fish. The CMP is intended to provide	Please refer to response to comment 539-42 regarding mercury impacts of the CMP and implementation of the mercury management plan to mitigate potentially significant impacts to a less-than-significant level.

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	mitigation for anticipated impacts of the construction and operation of the DCP on Special-status species and aquatic resources in the Delta. The CMP identifies sites and plans within the Delta for habitat creation and enhancement to offset DCP impacts. The conclusion stated in the EIR that the CMP will create potentially significant impacts is based on available information which indicates that the construction and operation of tidal and non-tidal wetlands may result in increased methylmercury concentrations in the Delta. As described in Appendix 3F (page 3F-70, lines 26-39), the project proponent proposes to develop and implement a Mercury Management and Monitoring Plan (MMMP) to address this potentially significant impact. The MMMP is intended to identify design elements in the wetlands projects that can minimize methylmercury impacts. The success of such efforts is uncertain based on available information and the current state of knowledge in this area. [see USGS (2021) and other studies performed in support of the Delta Mercury TMDL] The EIR should acknowledge this significant uncertainty and address the potential that the CMP will lead to significant impacts.	
539-155	[ATT 4:] The issue of methylmercury impacts in the Delta deserves proper context. The Delta is 303(d)- listed for elevated levels of methylmercury in fish. A Delta Methylmercury TMDL [total maximum daily load] was adopted and approved by USEPA in 2011. This TMDL has required actions by a host of parties that contribute mercury to the Delta, or otherwise impact concentrations of methylmercury in the Delta. DWR is one of the parties with responsibilities to take actions under the TMDL. As noted in Appendix 9H, existing levels of methylmercury in largemouth bass (the indicator species used	This comment is a duplicate of comment 539-43. Please see response to comment 539-43 regarding the effect of project operations and the CMP on mercury and methylmercury loading to the Delta relative to load allocations in the Delta Methylmercury TMDL and Central Valley Regional Water Quality Control Board's Basin Plan.

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	in the Delta Methylmercury TMDL and associated fish tissue objectives) are well above the adopted fish tissue objective of 0.24 mg/kg (see Table 9H. 1-8, for example). Significant regulatory pressure, as authorized under the Clean Water Act and implemented by the State and Central Valley Water Boards and USEPA Region IX, will continue to occur as long as this situation regarding elevated fish tissue levels continues. This may include more stringent wasteload allocations, NPDES [National Pollution Discharge Elimination System] permit requirements, special study requirements and associated resource expenditures (see USEPA, 1991, Guidance regarding TMDL Process). To the extent the proposed project will exacerbate and prolong the current problem (by increasing levels of mercury in fish), other parties that are regulated under the TMDL that have been shown to have minimal impact on fish tissue levels (e.g., Regional San [Sacramento Regional District Sanitation District]) may be required to take additional actions to comply with the above stated TMDL implementation requirements. This fact must be acknowledged explicitly in the EIR. The uncertain success of the MMMP (or additional measures) in mitigating methylmercury impacts is therefore problematic and should be acknowledged. To begin to mitigate identified impacts, the EIR should include tangible contributions to the resolution of the Delta Mercury TMDL, including participation in modeling and monitoring studies to understand the actual impacts of the CMP and ultimate attainability of the adopted fish tissue objectives. Legally, questions exist under the anti-degradation policy whether the federally-funded proposed project can go forward if the project makes an existing impairment worse. [add	

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	content from previous legal analysis] At minimum, this issue should be carefully considered and directly addressed in the EIR.	
539-156	[ATT 4:] Electrical Conductivity (EC) In Chapter 9 - Water Quality, page 9-3, line 10, DWR states that long-term average EC levels in the Sacramento River at Three Mile Slough will increase as a result of the proposed project. Page 9-88, Table 9-23, documents significant increases in EC in the Sacramento River at Emmaton and San Joaquin River at Jersey Point. Table 9-2 acknowledges that these locations in the Western Delta are 303(d)-listed as ""“impaired", i.e., not achieving adopted beneficial uses, for EC. Appendix 9L -- Water Quality 2040 Analysis (page 9L-19, lines 27-29) states that EC is projected to increase up to 73 µmhos/cm in the Sacramento River at the Three Mile Slough location in the September to January period. In lines 24-26, it is stated that increases up to 10 µmhos/cm are projected in the February to August period at this location. Long-term average EC levels are projected to increase by up to 8% under Alternatives 1 and 3. Appendix 9L (page 9L-19, lines 15-16) states that EC is projected to increase by up to 133 µmhos/cm at the Sacramento River at Emmaton in the September to January period. Projected increases up to 26 µmhos/cm are stated for the February to August period in lines 12-14. Long term average increases in EC of up to 11% are stated in lines 21-23.	Please see response to comment 539-44 regarding assessment of EC changes in areas of the Delta that are Clean Water Act Section 303(d)-listed. As described in that response, project operations would not make attaining the applicable water quality objectives for EC harder to achieve. Please see response to comment 539-43 and 539-155 regarding impacts of the project on mercury impairments in the Delta.

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	Such increases in EC in 303(d)-listed waters are problematic, in that they will make attainment of water quality objectives and protection of beneficial uses more difficult for the entire regulated community. When a TMDL is developed in the future (as required under Section 303 of the Clean Water Act) to address EC impairment throughout the Delta, these worsened conditions will potentially result in higher compliance costs and increased management requirements to communities and agricultural entities that will be included as sources in the TMDL. The central premise of TMDLs is that water quality impairments will be resolved through the reduction of source loadings of the parameter in question (see USEPA, 1991, Guidance on the TMDL Process). Exacerbation of EC problems in the Delta will therefore place all parties who discharge salt into the Delta in jeopardy of being required to install expensive treatment facilities (e.g. reverse osmosis) as a requirement of the future TMDL. Despite the above, the EIR, in Chapter 9 and Appendix 9L, asserts that these increases in EC levels are not a significant impact. Specifically, on Page 9L-21, lines 35-38, the EIR states that the increases in EC at Emmaton and Three Mile Slough could further degrade water quality in the 303(d)-listed Western Delta by measurable levels, but that the degradation would not contribute to beneficial use impairment that would be made discernibly worse (emphasis added). This determination does not square with water quality goals, water quality standards, or antidegradation requirements under the Clean Water Act. It also is not consistent with the direction of the California Water Code, which requires the adoption of water quality objectives to protect beneficial uses. It also seems to fail on its own merits, since a measurable decline in	

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	impaired water quality is "discernible." As noted in our comments [comments 154 and 155] pertaining to mercury, serious legal questions exist regarding the acceptability of project-induced water quality deterioration in 303(d)-listed waters under the federal anti-degradation policy. These issues are not addressed in the EIR and must be resolved through appropriate mitigation.	
539-157	[ATT 4:] An additional concern pertaining to EC impacts of the proposed project is raised in Chapter 9, page 9-3, where it is stated that no exceedances of Delta EC water quality objectives will occur. The rationale is that the project operators are required to meet these objectives under State Water Board Order D-1641, and that the project will be operated to achieve compliance. Information should be provided in the EIR explicitly documenting the past history of compliance with the South Delta water quality objectives. This information must be provided to assure readers of the EIR that future compliance with these objectives can and will be obtained. Based on the above [comment 156], the EIR should be modified to acknowledge the significant impacts that the proposed project will have on EC levels in the Western Delta. Additionally, the EIR should include mitigation measures to ameliorate these significant impacts.	As described in Chapter 9, Water Quality, Impact WQ-5 (electrical conductivity [EC]), the small modeled increases in the frequency of exceeding the Bay-Delta WQCP objectives would not actually occur under real-time operations. This is because the project facilities would be operated to meet Bay-Delta WQCP EC objectives, as implemented through State Water Board Decision 1641. The small modeled increases shown for some Delta locations are attributable to the monthly timestep of the hydrologic modeling conducted by CalSim 3, as compared to the 15-minute time step of DSM2, and are considered to be modeling artifacts. Nevertheless, the fact that the modeling shows only small increases (i.e., <1%) or no increases in the frequency of exceeding the Bay-Delta WQCP objectives at the compliance locations indicates that these objectives will be complied with at frequencies very similar to or the same as compliance frequencies for existing conditions.
539-158	[ATT 4:] The EIR should also acknowledge the potential impacts on other salt dischargers in the Central Valley associated with a future TMDL to address EC impairment in the Delta. TMDLs	As described in response to comment 539-44, project operations would not cause a worsening of Delta EC impairments, thus would not cause more restrictive salinity wasteload allocations to be placed on other parties.

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	typically require an inventory of salt dischargers and the establishment of wasteload and load allocations for those dischargers that will result in resolution of the impairment. Since the proposed project will worsen EC conditions in some parts of the Delta, it may lead to more restrictive allocations for other parties. Generally, more restrictive allocations will require greater resource expenditures by other parties to comply with those allocations.	
539-159	[ATT 4:] Cyanobacteria Harmful Algae Blooms (CHABs) In Chapter 9 and in Appendix 9L, the five factors which provide favorable conditions for blooms of Cyanobacteria and Harmful Algae are stated. These factors include: 1. Elevated water temperatures (typically above 19 degrees C) 2. Decreased channel velocities and associated decreases in turbulence and mixing 3. Increased hydraulic residence times 4. Increased water column irradiance due to decreased turbidity and increased water clarity 5. Adequate nutrient levels to support blooms These factors have been confirmed in research findings compiled for the Central Valley Water Board's Delta Nutrient Research Plan (2018).	Chapter 9, Water Quality, Impact WQ-14 (CHABs) clearly characterizes the uncertainties that are inherent to the CHAB analysis because the current scientific understanding of CHABs in the Delta is incomplete. Nevertheless, that does not mean that the analysis is lacking solid scientific foundation. Impact WQ-14 (CHABs) is based on the best scientific information available for CHABs from past CHAB studies conducted in the Delta and elsewhere. As noted in the comment, increases in residence time would occur in Discovery Bay. This location has very long residence time (i.e., 2 to 5 weeks) under existing conditions. Increases in residence time for the project alternatives may contribute to more Microcystis cell and colony production and accumulation/aggregation in Discovery Bay due to a 1- to 2-day increase in residence time in July at this location. While there is uncertainty regarding how modeled increases in residence time would translate to Microcystis bloom size through additional growth, accumulation, and aggregation provided by longer residence time, an additional day or two of residence time at Discovery Bay (a location that already has annual CHAB events) would not cause Microcystis blooms to substantially increase in frequency, size, or last substantially longer, relative to existing conditions. Based on use of the best available scientific information, Impact WQ-14 (CHABs) concludes that project operations would have less-than-significant impacts on Delta CHABs. CEQA does not require the lead agency to identify

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	On page 9L-40, the results of modeling studies are stated which indicate that the proposed project will increase hydraulic residence times at Discovery Bay in the Central Delta by up to 52 hours in September. Discovery Bay is a location where CHAB problems have been well documented. The EIR states that there is uncertainty regarding the impact of such a project-related increase in residence time on the duration and extent of CHABs at this location. The EIR notes that this uncertainty is a result of the fact that there are no area-specific residence studies that have been published which would allow the quantification of bloom size in response to the project-induced increase in residence time. With regard to the impact on cyanotoxins, the EIR notes that the factors relating bloom size to toxin levels are not well understood at this time. Despite this acknowledged uncertainty and lack of information, the EIR concludes definitively (see page 9L-43, line 21) that the increased residence time associated with the project would not substantially increase the size or extend the duration of CHABs relative to the No Project Alternative. Additionally, on page 9L-44. Lines 1-3, the EIR concludes that the proposed project will not substantially increase cyanotoxins in the Delta relative to the No Project Alternative. Finally, on page 9L-44, lines 4-6, the EIR concludes that none of the project alternatives would result in increased frequency or magnitude of CHABs which would be sufficient to cause an adverse effect on any beneficial use of any water body in the Delta. The EIR should be modified to properly characterize these conclusions as uncertain and lacking solid scientific foundation. Given this uncertainty, the EIR should include mitigation measures to assist in the control of CHABs in the Discovery Bay	mitigation for impacts that are determined to be less than significant in an EIR. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding CEQA requirements for mitigation and mitigation measures incorporated in the EIR.

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	area where current problems exist. The fact that the proposed project will likely make an existing problem worse is adequate justification for such mitigation.	
539-160	[ATT 4] Basis for 2040 Baseline Analysis In the assessment of future No Project "baseline" conditions and the associated differential impacts of the proposed project, the chosen approach appears to mask potential impacts of the proposed project by choosing extreme climate change conditions which significantly affect future EC and CHAB conditions in the 2040 No Project. In such a case, the impacts of the project are layered on top of worst case "baseline" conditions and problems are attributed to the No Project condition, rather than the project. The 2040 baseline should be performed as a "bookend" analysis, at minimum. That is, an additional analysis should be performed looking at the least severe (i.e. low end) of the projected 2040 Climate Change conditions in terms of sea level rise and temperature increase as the basis for the 2040 No Project analysis. This would provide perspective and balance to the overall analysis.	Please see Common Response 6, Climate Resilience and Adaptation, regarding the multiple analyses regarding climate change in the EIR that exceed CEQA requirements. In addition, please see Common Response 9, Hydrologic Modeling and Approach, regarding the adequacy of modeled assumptions related to climate change. Appendix 30A, CalSim 3 Results Sensitivity to 2040 Climate Change and Sea Level Projections, provides an explanation of sensitivity analysis intended to help the public and decision makers understand this complicated issue, even though it is not required by CEQA. This appendix shows a shift in runoff occurring earlier during the wet season and warmer temperatures between two additional climate change 2040 scenarios. The assessment of the two scenarios Appendix 30A indicated although a shift in the timing of runoff would occur, this would not result in a substantial change to the impact conclusions provided in EIR. Chapter 9, Water Quality, provides a full evaluation of the proposed project and alternatives impacts on EC and CHAB formation. Common Response 10, Surface Water Quality and Groundwater Resources, provides additional information regarding how the water quality analysis was conducted and how hydrologic modeling was incorporated into that analysis.
539-161	[ATT 4:] Macrophytes In Chapter 9 under the discussion of nutrients (page 9-17), problems associated with blooms of various macrophytes (aquatic vegetation) are mentioned. However, the EIR fails to address the potential impact of increased hydraulic retention time on the macrophyte blooms that currently occur at specific	Chapter 9, Water Quality, addresses macrophytes in the context of potential effects resulting from changes in nutrients due to project operations in Impact WQ-7. In Chapter 13, Terrestrial Biological Resources, Impact BIO-52 directly addresses impacts of project operations on expansion of invasive aquatic macrophytes in the Delta. Impact BIO-52 has been revised in the Final EIR to identify the additional drivers of invasive aquatic macrophytes in Delta, including residence time. This addition to Impact BIO-52 is based on information and analysis already presented in the Draft EIR, including Chapter 9, Impact WQ-14 and Appendix 9E. The

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	locations in the Delta. Macrophyte blooms are an acknowledged problem in the Delta (see 2018 Central Valley Water Board Delta Nutrient Research Plan) impacted by residence time and other factors.	revisions to Impact BIO-52 do not result in a new significant environmental impact or substantially increase the severity of an environmental impact or require additional mitigation measures to which DWR was unwilling to commit.
539-162	[ATT 4:] Consistency with the Delta Reform Act and Delta Plan Executive Summary, Page 1, Lines 5-9: In listing the purpose for the DCP, the Delta Plan and Delta Reform Act of 2009 are not mentioned. Important goals of the Delta Plan that also are not mentioned include (a) attainment of the coequal goals of water supply reliability and the health of the Delta ecosystem, (b) preservation of the Delta as a place, and © reduced reliance on the Delta as a water supply. Given the importance of this legislation and policy document, it is requested that the text be modified to mention these in the Executive Summary. It is noted that Appendix 3E contains a discussion of the Delta Reform Act and the Delta Plan. Information from this appendix should be pulled into the Executive Summary to provide proper context for the proposed project.	The Executive Summary as currently written meets CEQA requirements. Information in Appendix 3E, Delta Reform Act Considerations, is referenced or cited throughout the EIR, where appropriate.
540-1	(Merritt Island), Reclamation District No. 150 is a public agency within the Sacramento- San Joaquin Delta, adjacent to and within the proposed Delta Conveyance Project (Delta Tunnel), area of influence. The District appreciates the opportunity to submit comments on the draft Environmental Impact Report (DEIR) for the proposed Delta Tunnel.	This information describes the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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540-2	These comments are focused on the likely significant and unavoidable impacts and concerns related to flood control, drainage and the potential impacts related to access, resource scarcity, buried and exposed resources, levee stability and other items tied to operations, maintenance, repairs, rehabilitation and replacement (OMRR&R) over the life of the construction and operation of this project which could impact Merritt Island, a Project levee system within the Sacramento River Flood Control Project in the North Delta, directly adjacent to and across the Sacramento River of all three proposed most intake- settlement basin and tunneling facilities.	This information describes the structure of the comment letter and is general introductory text. The concerns raised in this comment are discussed and responded to in the comments that follow.
540-3	The Department of Water Resources (DWR) has been actively pursuing potential isolated water conveyance infrastructure that would impact elements of flood control and drainage for reclamation districts in the delta, depending on the location and proximity of intakes, and intermediate shafts, including potential impacts associated with settlement along the intake and tunneling alignments in the proposed alternatives and preferred alternative, Alternative 5.	The comments regarding the significance of impacts on flood control, drainage, and settlement are not supported by the analyses contained in Chapter 7, Flood Protection, and Chapter 10, Geology and Seismicity. Chapter 7, Flood Protection, provides the results of the analysis of flood control and drainage impacts attributable to constructing and operating the Delta Conveyance Project. As demonstrated in Chapter 7, all flood and drainage related impacts would be less than significant for all project alternatives, with the exception of Alternatives 2a and 4a. The construction-related impacts occurring under Alternatives 2a and 4a would be reduced to a less-than-significant level through mitigation. Please see Chapter 10, Geology and Seismicity, Impact GEO-4, which analyzes the potential for tunnel-induced ground settlement and surface structure-related ground settlement. The impact was determined to be less than significant. Furthermore, the Tunneling Effects Assessment technical memorandum (Delta Conveyance Design and Construction Authority 2022e) provides a sufficient level of detail to show that settlement will be minor overall and that future geotechnical studies would determine what site-specific measures would be needed to protect existing infrastructure and buildings. With today's state-of- the-art pressurized tunnel boring

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		machines, face losses are unlikely to cause surface settlement problems as long as face pressures are maintained, voids around the segmental lining are filled with backfill grout, injection quantities are continuously monitored and checked with theoretical volumes, and additional backfill grout is automatically injected if needed.
540-4	Dual Conveyance Alternative Description A critical element of dual conveyance requires a detailed project description of the necessary rehabilitation and improvement of the existing system of levees throughout the Delta. This should include an evaluation of Project and Non-Project levee features to ensure reliability of the through Delta conveyance system. This should include not only levees and channels downstream of the Delta Cross Channel and the Old/Middle River corridor, but all levee systems to ensure protection of freshwater through the Delta, as well as ensuring protection and access to intake and shaft components of the proposed Delta Tunnel. The system of North Delta Levees are critical elements of this multi- benefit system to ensure freshwater throughout the Delta. This element of the preferred alternative is not well defined, it is difficult to determine if this is a significant element in the current DEIR. This should be included in the final EIR and added to the no-action alternative as well.	Impact FP-1 in Chapter 7, Flood Protection, and the Delta Conveyance Design and Construction Authority Intake Flood Management technical memorandum and Levee Vulnerability Assessment technical memorandum (Delta Conveyance Design and Construction Authority 2022a, 2022b) assessed impacts on urban and nonurban Delta levees during the construction and postconstruction phases of the project. The analysis in Chapter 7 concludes that the construction and operation of the Delta Conveyance Project would not result in reduction in flood protection provided by the existing levee system. Delta-wide levee work is beyond the scope of the Delta Conveyance Project. Please refer to Common Response 3, Alternatives Development and Description, for additional explanation about why levee repair and upgrades as described in this comment were not considered as an alternative or element of an alternative evaluated in the EIR. In addition, see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding DWR's role in levee management throughout the Delta. Please also see Common Response 4, No Project Alternative Description and Analysis, regarding the CEQA requirements for describing and evaluating a No Project Alternative in an EIR and how the No Project Alternative for the Delta Conveyance Project meets those requirements.

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540-5	Most levees do not meet a structural, FEMA [Federal Emergency Management Agency], or USACE standard tied to future federal support or warrant the risk to the significant investment proposed without addressing the long-term reliability of the required flood control system improvements. Rehabilitation and improvement of the existing Delta levee system provides assurances for water supply reliability, water quality and support of the Co-Equal goals. Merritt'Island does not meet FEMA's 100-year certification and is not planning to meet that standard. The district Five-year Plan will be completed in 2023 and does provide a preliminary cost and quantity estimate to meet OMRR&R [Operation, Maintenance Repair Rehabilitation and Replacement] requirements and maintain PL [Public Law] 84-99 eligibility. The Final EIR should incorporate cost estimates for the Delta Project Levees to meet PL 84-99 eligibility requirements. Any movement, or settlement caused by the construction of the intakes, excessive traffic flow through detours not designed for the use, and boring of the tunnel could fail levees and other infrastructure including roads in the region. Any single levee failure could lead to impacts to adjacent levees and channels. The Final EIR should describe how this and other similar features are to be monitored and improved in anticipation of the proposed project and unavoidable impacts associated with the construction of the project elements.	As described in Chapter 2, Purpose and Project Objectives, the fundamental purpose of the Delta Conveyance Project is to restore and protect the reliability of SWP deliveries. The project is not a flood control project but has been designed to ensure that intake structures on the Sacramento River and modified flood control levees would not reduce the protection afforded by the existing flood control system. Although the project is not a flood control project, it would not affect ongoing or planned flood control improvements occurring within the Delta study area. The potential impacts of constructing and operating the project were fully evaluated in Chapter 7, Flood Protection. As described in Chapter 7 and Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, DWR does not own or maintain all levees in the Delta; depending on the levee and the area of protection, different standards and guidelines apply. During engineering conceptual design, all project alternatives were subject to an assessment of flood risks and a levee vulnerability assessment; see the Delta Conveyance Design and Construction Authority Intake Flood Management technical memorandum and the Levee Vulnerability Assessment technical memorandum (Delta Conveyance Design and Construction Authority 2022a, 2022b). These documents identify potential vulnerabilities within the Delta levee systems, evaluate Delta flood risk, management measures, emergency response, flood inundation mapping, and provide site specific recommendations for structure flood risk mitigations to major construction locations. Chapter 10, Geology and Seismicity, Impact GEO-4, discusses hazards associated with ground settlement from tunnel boring. As described, DCA has conducted a preliminary analysis of tunneling-induced ground settlement and identified areas where settlement is expected, including expected settlement from dewatering activities. Prior to construction, extensive site-specific geotechnical evaluations would occur and measures would be identified to address the hazards of slope instability and ground failure. During tunnel construction, DWR would evaluate and refine the

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		tunneling equipment and drilling methods to account for changes in ground conditions. These measures would minimize or avoid settlement, and impacts were determined to be less than significant. Additionally, DWR will install monitors during construction near levee construction sites and levee crossings of the tunnel alignment to monitor ground conditions and determine if subsidence occurs. DCA also conducted an assessment of traffic impacts due to traffic demand on roadways affected by the project. As discussed in Chapter 20, Transportation, Impact TRANS-4, construction traffic would not be allowed to use most Delta roads except in limited conditions. Per CEQA Guidelines, Section 15124, a project description shall contain information pertaining to the general description of a project's technical, economic, and environmental characteristic, but not supply extensive detail beyond that needed for evaluation and review of the environmental impact. As such, detailed costs are not presented in the EIR. Please refer to Common Response 7, Implementation Considerations, regarding project costs and funding.
540-6	Waterside impacts to bank protection along the intakes, related to approach velocities, scour and eddy effects, and surge related drawdown that impact slope stability need to be evaluated and explicitly stated how the project will address these impacts. This includes any operation tied to site preparation, construction, demobilization, temporary structures, and long-term operations. Any changes in water surface, flow, currents and duration due to the construction project impacts must address embankment, slope stability, seepage potential, and the drainage impacts related to the project that affect public agencies.	As discussed in Chapter 7, Flood Protection, Impact FP-1, more detailed hydraulic evaluations concerning hydraulic loading, scour, and erosion forces at the interface between the intake structures and the river terrain would be completed as part of the final project design. At the intakes, which are jurisdictional levees, the levee will be realigned around the perimeter of the sedimentation basins and will be maintained by DWR as part of the Delta Conveyance Project. These levees will require USACE Section 408 Permits and Central Valley Flood Protection Board permits. Also, channel margin enhancements associated compensatory mitigation that would occur on federal project levees may require permission from USACE in accordance with USACE's authority under the Rivers and Harbors Act (33 United States Code § 408) and levee vegetation policy. Any

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		restoration activities associated with compensatory mitigation would be designed, constructed, and maintained to ensure no reduction in performance of the federal flood project.
540-7	Duration of Construction (Impacts to flood control and drainage systems) A primary concern to Merritt Island is the impacts associated with the construction and duration of the proposed Delta Tunnel. The project will rely upon hauling materials between multiple project sites to staging and laydown areas relying on trucking primarily, and local, county, and state roads, bridges and numerous channel crossings, due to the construction of the intakes and facilities within Maintenance Area 9. All access corridors for Merritt Island are critical, including Highway 160, River Road, South River Road, and all connecting bridges and interior roadways. These critical access corridors will all be impacted severely during construction of the project, with detours that are not well defined or understood.	The assertion that the access corridor for Merritt Island will be severely impacted is not consistent with the information presented in the EIR. In Chapter 20, Transportation, in the section titled Impacts of the Project Alternatives on Transportation, specific limitations are identified to reduce effects on the community from construction-related traffic on Delta roadways. No construction traffic would be allowed on Yolo County roadways except on I-80, or for individuals or vehicles traveling from homes or businesses in Yolo County. No construction traffic (i.e., heavy trucks) will travel on State Route 160, River Road, South River Road, or the connecting bridges. These limitations will minimize potential impact on unincorporated Yolo County area of Merritt Island.
540-8	A detour along the west side of the Sacramento River will severely impact the district and landowners for a system that was not designed for diversion of highway 160 traffic over an extended period of time. The duration and impact associated with this long-term construction project will cripple Merritt Island OMRR&R [Operation, Maintenance Repair Rehabilitation and Replacement] activities and projects, let alone the immense landowners impacts. Impacts due to construction traffic have to be monitored and coordinated well in advance to ensure all elements associated with the project have been identified in adva'ce with contingencies, BMP's, and all avoidance measures in place, along with a robust action plan to repair and replace during construction and rehabilitation post construction. This aspect should be well defined in the final	A detour along the west side of the Sacramento River was not envisioned in the conceptual design of the project alternatives, so the project alternatives would not affect Merritt Island's Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R). As discussed in response to comment 540-7, project design criteria restrict construction traffic on several Delta roadways. No construction traffic (i.e., heavy trucks) will travel on State Route 160, River Road, South River Road, or the connecting bridges.

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540-9	A detailed analysis of all known features along, through and traversing the district boundary, and those buried features including gas lines, active or abandoned gas wells which could be impacted by higher water table and induced seepage due to higher groundwater levels, and the impact to district [Merritt Island] drainage, land use, and levee seepage and stability need to be analyzed. Other items such as unknown water systems, communication and data portals, and structural elements such as houses, facilities, pumpstations should be evaluated and regularly monitored. Any impact to the ability of pumps to operate due to changes in water surface elevations needs to be identified as a possible impact due to project construction and long-term operations.	The location of features is described in the Location of Buried Groundwater and Natural Gas Wells section of Chapter 3, Description of the Proposed Project and Alternatives. During design and construction, DWR will use subsurface techniques to identify the locations of all utilities within the construction area (e.g., vacuum potholing) as described in the section titled Investigations Prior to Construction Phase in Chapter 3 and in the Potential Future Field Investigations technical memoranda (Delta Conveyance Design and Construction Authority 2022c, 2022d). DWR will incorporate methods to protect those utilities during construction and subsequent operations. Chapter 21, Public Services and Utilities, provides results of the assessment of the project's construction- and operation-related impacts on utilities. Specifically, potential impacts of project construction on utilities, including specific pipelines, telecommunication lines, and water/sewer conveyance systems, were evaluated in the EIR. Please see the discussion in the section titled Impacts of the Project Alternatives on Public Services and Utilities in Chapter 21, Public Services and Utilities. As discussed in Chapter 21, DWR will continue to consult with utility operators prior to finalization of design regarding any proposed uses to avoid conflicts. Based on the analysis conducted for Impact GW-2, no model nodes exceeded the +/- 5-foot change in groundwater elevations in more than 5% of the simulated months resulting from simulated project operations for each alternative. As documented in Appendix 8B, Impact Analysis: Groundwater Model Results, groundwater elevation fluctuations as a result of project operations were either small in magnitude (1 to 2 feet) or infrequent in nature (1% to 2% of the time) or both. These small, infrequent changes in groundwater elevation are within the range of normal seasonal variations in groundwater elevations within the Delta region and are not expected to affect any existing infrastructure.

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540-10	The significant trucking limitations caused by the massive project could impact local resources for material delivery and hauling for OMRR&R [Operation, Maintenance Repair Rehabilitation and Replacement] projects and activities for Merritt Island. There are concerns that local trucking capabilities, or increase in costs, due to scarcity, could impact the ability of Merritt Island to perform work within limited and budgets for services year over year. Given a 10+ year timeline for construction, this could impact the construction economy for many years.	The commenter's claim that project construction would impact local trucking resources for material delivery and hauling for OMRR&R projects is not supported by the information documented in the Delta Conveyance Engineering Project Reports (EPRs) (Delta Conveyance Design and Construction Authority 2022f, 2022g) and the Draft EIR. As noted in the Logistics Strategy EPR, trucking resources are assumed to be provided by the contractor using a larger area outside of the Delta, including throughout the Sacramento Valley, San Joaquin Valley, and the San Francisco Bay Area. Contractors may also use trucking resources from other geographical areas, including southern California or other states and relocate the required trucking assets to the area. Therefore, local truck resources serving OMRR&R projects within the delta region would be minimally impacted. Truck trips for construction of the project alternatives are included in the roadway segment and intersection analysis contained in Appendix 20A, Delta Conveyance 2020 Traffic Analysis, and Appendix 20C, Delta Conveyance 2040 Traffic Analysis. The traffic analysis contained in the appendices were completed to aid in the understanding of potential major increases to traffic volumes on roadways and vehicle delay at intersections that may be caused with the addition of project-generated construction traffic. Refer to Chapter 20, Transportation, and Common Response 14, Transportation, for additional discussion. Potential socioeconomic impacts from project construction were also assessed in Chapter 17, Socioeconomics, as they relate to local employment and community cohesion (see ECON-1 and ECON-3). These impact analyses consider all required construction activities, including truck driving.
540-11	Any construction project areas, or impact areas due to tunneling operations, that require dewatering and drainage must consider self-sufficient and independent drainage through lands within the District, operated and maintained by	As described in the Process and Method of Review for Impeding or Redirecting Localized Flood Flow section of Chapter 7, Flood Protection, and in the Local Water Supply, Drainage, and Utilities section of Chapter 3, Description of the Proposed Project and Alternatives, the location and

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	Merritt Island. The existing system of drainage ditches and canals were designed for existing conditions only. The Merritt Island pumpstation(s) are not designed for additional construction dewatering for project areas within the District. Evaluation of respective drainage systems should be performed in advance and consideration for how this drainage will impact property owners' ability to control water surface elevations, drain lands, and maintain water quality within the District.	capacity of existing drainage and irrigation facilities that may be affected by construction of the Delta Conveyance Project would be determined and the capacity of this infrastructure to convey drainage or irrigation water would be maintained. At all construction sites, all stormwater and dewatering flows generated would be collected, treated on-site, and stored on-site for re-use on-site to minimize the need for diverting other water; the water would be stored in tanks on the construction site for reuse for dust control and other construction needs. The storage facilities would also eliminate the "peak flow" stormwater flows into existing drainage channels. If the storage tanks are full and on-site water demands are fully met, the water would be discharged at a rate that would not increase peak flow rates in the drainage channels because the water would be discharged infrequently and after the peak storm event had completed. The project and alternatives would discharge treated water at a rate that would not increase peak flow rates for these waterways. Additionally, as noted in the discussion of Impact FP-2 in Chapter 7, a review of the drainage systems will be performed to assess the impacts of tunneling operations, dewatering, and drainage as part of the final design. Please refer to Chapter 3 in the section titled Local Water Supply, Drainage, and Utilities, and Chapter 7 for more information. Please refer to Chapter 8, Groundwater, regarding the potential for the project to impact groundwater levels. Impacts on agricultural facilities are addressed in Chapter 15, Agricultural Resources; as described in mitigation measure AG-3, affected supporting agricultural infrastructure would be replaced or relocated to reduce impacts on agriculture. As noted in Chapter 3, drainage will be addressed at each construction location, captured, and treated on site.

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540-12	Higher water tables, and adjacent stage in surrounding water bodies, primarily the Sacramento River, but Sutter Slough and Elk Slough could also be impacted. This could also impact the interior water table, and increase drainage costs, or change soil conditions affecting landowners orchards, vineyards, crops and access within Merritt Island. This must be addressed in the final EIR.	Please refer to response to comment 540-11 regarding groundwater levels and drainage. Please refer to the Chapter 3, Description of the Proposed Project and Alternatives, section titled Local Water Supply, Drainage, and Utilities for more information. In addition, refer to Chapter 8, Groundwater, regarding increases in agricultural drainage under No Project and project alternatives. Refer to the Chapter 8 table titled Volume of Agricultural Drainage in Acre-Feet and Percent Change in Agricultural Drainage Relative to Existing Conditions, which summarizes the volume of agricultural drainage occurring under each alternative simulation. Please also see Chapter 8 regarding impact of changes in stream gains or losses in various interconnected stream reaches. Mitigation measures described in Chapter 8, such as for increases in groundwater elevations near project intake facilities affecting agricultural drainage, including a groundwater monitoring well system, would avoid impacts on agricultural resources.
540-13	Highway 160 and county roads along District levees, and within the District, provide access to all connected lands between Hood, Clarksburg, Freeport, West Sacramento, Sacramento, Elk Grove, Point Pleasant, Walnut Grove, Rio Vista, Thornton, Lodi and Stockton. The numerous landowners, businesses, schools, emergency and public service agencies, and the traveling public all rely on dependent infrastructure to safely travel, work, live and recreate in the Delta.	The California Department of Water Resources (DWR) has developed specific requirements for the contractor to reduce potential impacts on the regional transportation system serving the Merritt Island District, including SR 160, S. River Road, Clarksburg Road, Courtland Road, and SR 84. Contractors must develop and implement transportation demand management plans (TDMs) and traffic management plans (TMPs). These requirements are discussed in Impact TRANS-3 in Chapter 20, Transportation.
540-14	Emergency operations during high water events due to rainfall runoff or emergency flood events occur regularly in the Delta every 5-10 years, depending on many factors. This comment is not meant to quantify the impacts associated with construction elements, rather, the final EIR must evaluate the range of potential impacts project construction sites will have on a range of river stage/flow and interior runoff scenarios which could not only impact the Delta Tunnel, but also Merritt Island, Yolo County, California Department of Transportation, Clarksburg, Hood and Courtland and the State Plan of Flood	During conceptual engineering design, all project alternatives were subject to an assessment of flood risks and a levee vulnerability assessment; see the Delta Conveyance Design and Construction Authority Intake Flood Management technical memorandum and the Levee Vulnerability Assessment technical memorandum (Delta Conveyance Design and Construction Authority 2022a, 2022b). These documents identify potential vulnerabilities within the Delta levee systems; evaluate Delta flood risk; include management measures, emergency response, and flood inundation mapping; and provide site-specific recommendations for structure flood risk mitigations to major construction locations. At the intake sites, the

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	Control Sacramento River Flood Control Project. The likelihood of any number of natural emergency events is high during a 10+ year construction period and all potential scenarios need to be evaluated and planned for with local, state agencies in advance and should be explicitly documented in the EIR. Any potential emergencies caused due to the Delta Tunnel project should also be generally described, for operational guidance and support with the State, counties and local agencies.	jurisdictional levee would be constructed before the existing levee is removed to allow intake construction, thereby not changing the existing protection level. At the reception and maintenance shaft sites, the tunnel shaft would be raised at a height greater than the flood elevation, and this would occur prior to construction of the tunnel shaft opening. Due to the limited number of construction workers at the reception and maintenance shafts, no other measures were considered during construction. At the tunnel launch shaft sites, either the island levees would be improved (Bouldin and Lower Roberts Islands) or a ring-levee would be constructed (Twin Cities Complex) to protect the workers and the sites. The tunnel launch shaft sites at the Southern Complex would be protected by existing levees, and the Bethany Complex would not be susceptible to major flooding. Please see response to comment 540-11 regarding determining capacity of and maintaining drainage and irrigation infrastructure. Please also see response to comment 540-11 regarding stormwater and dewatering flows, "peak flow" stormwater flows, and drainage systems.
540-15	Merritt Island, Reclamation District No. 150, urges DWR to consider addressing detailing construction related impacts due to the significant duration of the construction project related to resource limitations for the Delta including access, trucking, and the inevitable emergency operation impacts.	Please refer to Impacts TRANS-3 and TRANS-4 in Chapter 20, Transportation, which address potential construction impacts as they relate to access, roadway improvements and emergency access. A combination of transportation management plans (described in Mitigation Measure TRANS-1) and improvements to the transportation system would be developed in coordination with the State of California and local agencies to reduce potential effects related to traffic safety hazards and emergency access on Delta roadways serving project alternatives construction sites.
540-16	The current preferred alternative does not clearly define the dual conveyance levee rehabilitation and improvement to ensure long-term water supply reliability or protection of critical elements of the Delta Tunnel.	Please see response to comment 540-4 regarding repairs and upgrades to levees.

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540-17	Merritt Island could have additional significant impacts related to the tunneling operation under the district and lands related to ground movement, impacts to buried features such as gas wells and pipelines, and ongoing construction efforts of the Delta Tunnel related to dewatering, seepage and water table impacts, construction traffic impacting access locally and regionally. The District levees do not meet FEMA 100-Year or USACE PL 84-99 active status and require investment to rehabilitate and improve the levee system.	In regard to settlement caused by tunnel boring, please see Chapter 10, Geology and Seismicity, Impact GEO-4, which analyzes the potential for tunneling-induced ground settlement and surface structure-related ground settlement. The analysis found that as a result of actions that would be taken to prevent settlement, including site-specific evaluations of the settlement hazard associated with the site-specific soil conditions overlying the tunnel throughout the alignment and compliance with applicable design standards and building codes, this impact would be less than significant. Ground settlement is also discussed in the Tunneling Effects Assessment technical memorandum (Delta Conveyance Design and Construction Authority 2022e). The settlement values included in the technical memorandum are unmitigated and are based on the excavated diameter that includes the overcut. Please see response to comment 540-3 regarding the unlikelihood that face losses would cause surface settlement problems. As stated in Chapter 3, Description of the Proposed Project and Alternatives, field investigations describe past and future efforts to identify geotechnical, hydrogeologic, agronomic, and other field conditions, which will guide the construction methods and monitoring programs used for final engineering design and construction. As described in the Process and Method of Review for Impeding or Redirecting Localized Flood Flow section of Chapter 7, Flood Protection, impacts on buried features could not be evaluated as they are not visible from aerial photography. Based on the Utility Potholing section of Chapter 3, Description of Proposed Project and Alternatives, investigations including vacuum or backhoe excavations, noninvasive surface field surveys, and potholing would be conducted to identify the buried features within the construction boundaries of the project. As described in Areas Subject to Flooding section of Chapter 7, federal, state, and local regulatory requirement represent the minimum level of compliance needed. As described in Chapter 3 and Chapter 8, Groundwater, groundwater

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		dewatering is not anticipated along the tunnel alignment. Additional details regarding the geotechnical and soil considerations can be found in the Engineering Project Reports associated with the project (Delta Conveyance Design and Construction Authority 2022f, 2022g). Diaphragm walls or slurry walls would be installed prior to construction of the vertical tunnel shafts. Then, the bottom of the tunnel shaft would be installed to seal the tunnel shaft from the surrounding groundwater aquifer. Dewatering at the tunnel shaft would only occur once at the end of the shaft construction and would be limited to the groundwater within the shaft. The shaft would remain impermeable to groundwater intrusion throughout tunnel construction and operations. Chapter 20, Transportation, provides an assessment of construction-related vehicle traffic that is expected to occur. Measures that have been incorporated into the Delta Conveyance Project such as park-and-ride lots would reduce employee vehicles and reduce the severity of construction-related traffic. The Chapter 3 section Access Roads identifies the designated access routes that would be used during construction of the project. Construction traffic would be limited to the designated access routes. Additionally, Mitigation Measure TRANS-1 includes further measures to reduce construction-related transportation impacts, including a requirement to coordinate with emergency responders.
540-18	Thank you for the opportunity to provide comments on this project; Merritt Island welcomes any feedback or questions regarding this letter.	This information is general closing text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
542-1	The Sacramento River Settlement Contractors, hereinafter referred to as the "SRS Contractors", consist of landowners and water suppliers in the Sacramento Valley with settlement contracts with the United States in connection with the U.S. Bureau of Reclamation’s ("Reclamation") operation of the Central Valley Project ("CVP"). The individual contractors who join this letter are listed on Exhibit A [Attachment 1], attached	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR is committed to working with all interested parties and has reviewed all comments and will consider all comments in its decision-making process.

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	hereto. The SRS Contractors appreciate the opportunity to provide comments on the California Department of Water Resources' (DWR) Draft Environmental Impact Report for the Delta Conveyance Project (Draft EIR). In an effort to assist DWR's efforts toward adequate environmental review of the Delta Conveyance Project ("DCP" or "Project"), and to improve the SRS Contractors' understanding of the proposed Project's impacts on the environment, including potential impacts of the Project and alternatives on CVP and SRS Contractor operations, the undersigned are providing these comments related to the Draft EIR. These comments and requests for modifications to the Draft EIR raise significant environmental issues, and should therefore be treated as such for purposes of responding to these comments pursuant to the California Environmental Quality Act (CEQA) (Cal. Code Regs., tit. 14, § 15088). The SRS Contractors invite discussion and collaboration with DWR regarding these comments.	
542-2	1. The Draft EIR Fails to Adequately Define the Project Being Analyzed. The SRS [Sacramento River Settlement Contractors] Contractors have a strong interest in understanding the DCP and in particular the full range of potential Project operations. The manner in which DWR operates the Project as a new component of the State Water Project (SWP) may affect storage in upstream reservoirs, as well as water supplies and the environment north of the Delta, within the SRS Contractors' service areas and beyond. The Draft EIR project description provides insufficient information about details relevant to these considerations. Operational criteria described in Draft EIR section 3.16 include	Please see Common Response 3, Alternatives Development and Description, regarding a description of the project operations in the Draft EIR and clarifications regarding project operations, including a discussion of upstream reservoir operations and storage. Chapter 3, Description of the Proposed Project and Alternatives, adequately describes the operations of the project for the purposes of environmental impact analysis. The modeling contained throughout the EIR and described in Appendix 5A, Modeling Technical Appendix, provides an accurate representation of modeled conditions of project operations for each alternative evaluated. Please see Common Response 9, Hydrologic Modeling and Approach, regarding modeled assumptions for upstream operations and changes to storage and supply. As described in Common Response 3 and Common Response 9, the modeled conditions are based, in part, on the criteria developed for the operation of the intakes integrated with the existing facilities, regulatory requirements (e.g., D-1641) and agreements (e.g.,

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	sweeping velocity requirements, bypass flow requirements, pulse protections, and low-level pumping restrictions, but the Draft EIR does not provide an actual operations plan that establishes concrete, stable parameters for use of the proposed north Delta intakes. Because operational details in the Draft EIR project description are limited, and the Draft EIR relies on hydrologic modeling based on assumptions about DCP operations to support its determinations about numerous impacts, the SRS Contractors engaged assistance from MBK Engineers. MBK [Murray, Burns and Kienlen Consulting Civil Engineers] Engineers applied their expertise in coordinated SWP and CVP operations and the modeling tools used in the Draft EIR, to examine the Draft EIR modeling. As explained in the correspondence from MBK Engineers (attached hereto as Exhibit B [Attachment 2]), DCP operations are poorly defined and leave open the question of how the Project will affect CVP operations and upstream water supplies. Modeled parameters tell a story about a range of potential impacts not discussed in the Draft EIR, and the Draft EIR does not limit DCP operations to what was modeled. MBK Engineers made the following key observations: (1) The proposed north Delta diversion (NDD) facilities increase the capacity to release stored water for exports. (2) The modeling artificially limits the export capacity of the project by including operational rules that result in months when simulated diversions through the proposed north Delta intakes are not used at their full potential in combination with the existing south Delta pumps, even when the bypass flow requirements included in the project description would allow greater diversion.	COA) and discloses the modeled changes to CVP storage and deliveries, which show little or no change. This information is presented in Chapter 5, Surface Water, and Chapter 6, Water Supply (e.g., see the section in Chapter 5 titled Changes to SWP and CVP Reservoir Storage and the table in that chapter titled Changes to Shasta Lake Storage under the Project Alternatives). As described in the information in Chapters 5 and 6, the modeled project operations result in minimal changes upstream and would not affect CVP operations (e.g., storage) and upstream water supplies. The comment indicates concerns that the project description does not include the same limitation on increasing releases from storage as the hydraulic modeling. However, Chapter 3 includes this text: “The north Delta intakes would be used to capture additional excess flows when the south Delta exports are limited and not able to capture those flows.” Furthermore, as described in Chapter 3, DWR does not intend to increase storage withdrawal for exports compared to the Existing Conditions/No Project even though the Delta Conveyance Project provides additional conveyance capacity. DWR intends for this operational criterion to reflect the same limitation as modeled using CalSim 3, and DWR further clarified text in Chapter 3 of the Final EIR related to integration of Delta Conveyance facilities and operations into the SWP. None of the revisions in Chapter 3 resulted in a new significant environmental impact or substantial increase in the severity of an environmental impact or required additional mitigation measures to which DWR was unwilling to commit.

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	(3) Nothing in the Draft EIR project description would prevent DWR from using the NDD facilities to move additional stored water from the SWP and CVP. (4) The Draft EIR does not explicitly evaluate the additional water cost for complying with D-1641 standards that are shared by the CVP and SWP through the Coordinated Operations Agreement between Reclamation and DWR (COA), caused by increases in Delta export. In sum, the Draft EIR does not describe in sufficient detail how much water will be diverted at the north Delta diversion and south Delta diversion and the timing of such diversions. As a result, the full effects of the proposed project cannot be ascertained.	
542-3	The Draft EIR is also vague and inconsistent in its description of DCP operations. For example, the project description states "shifting from south Delta intakes to proposed north Delta intakes has trade-offs and is not expected unless there is an operational advantage to do so at DWR's discretion under limited circumstances (e.g., to provide additional real-time south Delta fish protections, to reduce salinity at Jersey Point)." (Draft EIR at 3-145.) The set of "limited circumstances" is not defined or enumerated to clarify when and how the NDD intakes might be operated. The Draft EIR does not describe the operational criteria for this shift, the volume of this shift, or when it occurs. Moreover, the description of circumstances appears inconsistent with the Draft EIR's description of how operations were modeled for purposes of environmental review. (See Draft EIR, App'x 05A, § B, at B-63 ("shifting of exports from the	Please refer to response 542-2 and Common Response 3, Alternatives Development and Description, regarding clarifications on the limitation of diversions and the use of real-time information for determining how diversions are made between north and south.

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	south Delta intakes to the proposed north Delta intakes only occurs when there is an operational advantage to doing so in terms of carriage water savings.").) Thus it is unclear to the SRS Contractors whether the Draft EIR modeling is consistent with the description of operations contained in the project description.	
542-4	There are several reasonably foreseeable situations in which exports might be shifted from the south Delta to the north Delta, in addition to the benefits of additional carriage water savings that the Draft EIR modeling appendix describes as the only situation evaluated in the Draft EIR modeling. Most notably, DCP would create the ability to move available additional stored water for which there will be a strong demand south of the Delta, including for municipal and agricultural use, as well as potential groundwater recharge projects to achieve sustainability pursuant to the Sustainable Groundwater Management Act. Because the Draft EIR does not disclose the potential use of that additional capacity to maximize release of stored water under the DCP, it fails to identify and inform the public and decision-makers of potential redirected impacts to CVP water supply that in turn could impact groundwater supplies, subsidence, aquatic resources, terrestrial species, and agricultural resources in the entire CVP service area, as described further herein.	Please refer to response to comment 542-2 regarding the description of the project operations and the modeled representation of operations, including that of the CVP. CVP operations are included in the CalSim 3 modeling as described in Appendix 5A, Section A Modeling Technical Appendix –Modeling Overview, and results are presented in Chapter 5, Surface Water, and Chapter 6, Water Supply. The Delta Conveyance Project is not proposing to change the operational criteria of water storage facilities upstream of the Delta, as evidenced by results presented in Chapter 5 and Chapter 6 (e.g., Chapter 6 table titled Water Supply Summary, Changes to Water Supply by the Project Alternatives, Geographic Area, and User, Shown in Thousand Acre-Feet and Resulting Percentages, as Compared to Existing Conditions (2020 Hydrology)). Changes with project modeled hydrologic conditions have been fully evaluated and disclosed in the EIR. The operation of the Delta Conveyance Project would not result in the impacts identified in the comment.
542-5	2. The Draft EIR Does Not Adequately Disclose or Analyze Project Impacts on the CVP and SRS [Sacramento River Settlement] Contractor Operations. The SRS Contractors' primary interest in the Draft EIR is to ensure that all parties and the public have a full understanding	The assertion by the comment that project impacts on the CVP and SRS Contractor operations were not analyzed is not consistent with the analysis contained in the EIR. Case law, including cases cited in the comment, demonstrate that an EIR must adequately address the reasonably foreseeable environmental impacts associated with a project's water source. Here, the EIR fully complies with this requirement as provided in

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	of what impacts, if any, operating the DCP at full capacity will have on the CVP and the water supplies of the SRS Contractors. In light of the gaps in water supply modeling described above [comment 2], the SRS Contractors have identified a number of areas in the Draft EIR that fail to meet CEQA's requirement that an EIR disclose and adequately analyze potential significant environmental effects. (Pub. Resources Code, § 21100(b)(1).) As a preliminary matter, the Draft EIR takes the position that changes to surface water resources and water supplies "by themselves" are not considered impacts under CEQA. (See Draft EIR at 5-1.) However, this is not an established or generally accepted interpretation of CEQA's requirement to analyze and disclose changes to the physical environment in order to identify significant impacts that must be mitigated. (See Pub. Resources Code, §§ 21002 (requiring public agencies to avoid or lessen significant environmental effects of projects); 20160.5 ("'Environment' means the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water...").) Instead, a number of cases have addressed the need to analyze a project's impacts on water resources specifically. (See, e.g., Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 441-444, 449-450; In re Bay-Delta etc. (2008) 43 Cal.4th 1143, 1173; Buena Vista Water Storage Dist. v. Kern Water Bank Auth. (2022) 76 Cal.App.5th 576, 591.) For example, environmental impact analysis is generally required for water transfer projects and changes to water allocation plans. (See, e.g., Planning and Conservation League v. Castaic Lake Water Agency (2009) 180 Cal.App.4th 210, 222-223 (reviewing EIR for proposed water transfers).) While the SRS Contractors appreciate the effort in the Draft EIR	this response. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, in the section that discusses evaluation of water-dependent resources, which explains how the information contained in Chapter 5, Surface Water, and Chapter 6, Water Supply, was used as a basis for understanding potential impacts on surface water-related resources. Chapters 5 and 6 acknowledge that the changes to surface water resources and water supply are evaluated and disclosed, but CEQA impact determinations are not made in those chapters. CEQA impact determinations are not made because the impacts associated with changes to surface water and water supply are associated with environmental resources dependent on hydrology or water supply. Therefore, the changes disclosed in Chapters 5 and 6 are appropriately analyzed in resource evaluations throughout the EIR (see the section titled Surface Water Changes in Chapter 5). For example, thresholds and impact evaluations based on Appendix G of the CEQA Guidelines related to flooding use changes in hydrology presented in Chapter 5 to evaluate impacts in Chapter 7, Flood Protection (Impact FP-2). The EIR fully evaluates impacts on the range of resources in Chapters 7 through 32 using information presented in Chapters 5 and 6. Please see response to comment 542-2 regarding upstream effects, including water supply. As shown in in Chapter 6 (in the table titled Water Supply Summary, Changes to Water Supply by the Project Alternatives, Geographic Area, and User, Shown in Thousand Acre-Feet and Resulting Percentages, as Compared to Existing Conditions [2020 Hydrology]), the hydrologic modeling indicates very small increases in CVP north of Delta water deliveries to agricultural, M&I, and refuges during dry and critical water year types. The analysis contained in the EIR is not consistent with the assertion by the comment that the project would increase releases of stored water. Chapter 3, Description of the Proposed Project and Alternatives, specifies that the proposed north Delta intakes would capture excess flows. CalSim 3

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	to describe changes to surface water resources and water supplies, CEQA also calls for analysis and identification of those changes that result in impacts to the environment. With respect to those impact areas analyzed by the Draft EIR, the SRS Contractors are concerned that the full potential for impacts has not been analyzed. As a result of the inadequate project description addressed above, the Draft EIR does not adequately analyze the effect that utilizing the DCP's full capacity will have on water quality, water temperature, temperature-dependent mortality and other environmental resources that could result from the increasing releases of stored water that in turn results in reduced storage in Shasta. As explained above, the Draft EIR's analysis of surface water availability includes artificial constraints in the modelling that limit combined south Delta diversions and north Delta diversions, despite available capacity in the tunnel and at the north Delta intakes, which in turn suggests higher storage levels in north of the Delta reservoirs than might actually occur. The Draft EIR acknowledges elsewhere that the modeling anticipates reductions in deliveries to the SRS Contractors in some years. (Draft EIR at 6-36; see also Draft EIR, Appendix 05A, Section B.5.7, at B-630 (modeling results showing decreases to the SRS Contractors in a few below normal, dry, and critical years).) Consequently, the Draft EIR overlooks the full extent of potential water supply impacts caused by the Project.	modeling results presented in Appendix 5A, Section B, Hydrology and Systems Operations Modeling, and summarized in Chapter 5, Surface Water, show that the project alternatives would have minimal effect on end-of-month storage in reservoirs upstream of the north Delta intakes, including Folsom Reservoir, and minor increases may occur in some months. The project is not proposing changes to operations or amount of water supply, including storage, provided by upstream facilities and also does not preclude future changes to the state's water supply either through modifications of the operations of existing facilities or increasing water storage. Appendix 5A, Section B, Existing Conditions section describes how the CalSim 3 model represents SWP and CVP operations under the existing regulatory environment. It also characterizes the assumptions of existing conditions associated with facilities and ongoing programs that were incorporated into the model. The Model Limitations section further describes the limitations of CalSim 3 as a monthly model developed for planning level analysis. As described in Common Response 3, Alternatives Development and Description, the project description does not propose use of the full capacity of the Delta Conveyance Project; however, full potential operation is evaluated throughout the EIR. The Delta Conveyance Project will be operated consistent with current and future regulatory requirements and operational constraints that may come out of the CPOD process and/or regulatory permitting processes, in real-time, but these future requirements are not currently known and are not incorporated into the Delta Conveyance Project modeling framework.
542-6	Increased storage releases to meet water quality requirements under D-1641 and shared obligations under COA [Coordinated Operations Agreement] will reduce the availability of water to the SRS Contractors [Sacramento River Settlement	Please refer to response to comment 542-2 regarding the description of the project operations and the modeled representation of operations. Please also see response to comment 542-2 regarding upstream effects, including water supply. The EIR fully evaluated and disclosed the potential

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	Contractors]. Reductions to water supply in turn can result in environmental impacts that are not addressed in the Draft EIR. Of particular interest to the SRS Contractors are the environmental effects of reduced water supply on rice production, which plays a critical role in providing food and habitat for waterfowl and giant garter snakes. These impacts are detailed in four attached declarations that were originally submitted in federal litigation over the 2019 Biological Opinion and 2022/2023 Interim Operations Plans for the Central Valley Project. (CNRA, et al. v. Raimondo, et al., U.S. Dist. Ct. E.D. Cal., Case No. 1:20-cv-0426-DAD-EPG.) The declaration of Joel Kimmelshue, attached hereto as Exhibit C [Attachment 3], details the extent of acreage in the Sacramento Valley under production for rice between 2014 and 2022. (Ex. C, paragraphs 3-7.) Mr. Kimmelshue explains that recent reductions in water availability on the west side of the Sacramento Valley—the area serviced by the SRS Contractors—has resulted in significant fallowing of land for rice production. (Id., paragraph 8.) In his declaration attached hereto as Exhibit D [Attachment 4], Dr. Mark Petrie explains the effect of decreased water supplies on waterfowl in the Sacramento Valley, a significant food source for waterfowl. (Ex. D, paragraphs 3-15.) Decreased water supplies result in decreased rice production and depletion of important food resources for waterfowl. (Ex. D, paragraph 14; see also Kasler, Pacific Flyway Birds Will Suffer Without Soaked Rice Fields, Sacramento Bee (May 15, 2022) p. 7A, attached hereto as Exhibit E [Attachment 5].) Dr. Eric C. Hansen details in two separate declarations the environmental impacts of decreased water supplies in the	to change storage and flows in waterways, including potential changes to meet water quality requirements and shared obligations under the Coordinated Operations Agreement, and found that the changes were negligible. Because the changes in flow and storage were negligible, impacts on waterfowl and giant garter snakes attributable to operation of the project as identified in this comment would not occur.

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	Sacramento Valley on giant garter snakes. In Dr. Hansen's first declaration, attached hereto as Exhibit F [Attachment 6], Dr. Hansen explains the relationship between water supply in the Sacramento Valley and the giant garter snakes, which rely on rice fields and related conveyance infrastructure for habitat and food. (Ex. F, paragraphs 1-10.) Dr. Hansen's second declaration, attached hereto as Exhibit G [Attachment 7], addresses the effects of drought, fallowing, and reduced rice production in 2022 on giant garter snake populations. (Ex. F, paragraphs 2-7.) [Footnote 1: To the extent that the Draft EIR fails to adequately describe the proposed operational criteria and fully analyze any potentially significant impacts to CVP water supplies and environmental impacts resulting from changes in water supply within the SRS Contractors' service areas, the Draft EIR also fails to identify measures necessary to mitigate any significant impacts to environmental resources served by water supplies to the SRS Contractors, including alternatives to the DCP as proposed, as required under CEQA. (Pub. Res. Code, §§ 21002.1(a), 21100(b)(3); Cal. Code Regs., tit. 14, § 15126.4.)] For the reasons described in the attached MBK Engineers correspondence, the full effect of DCP on water supply north of the Delta remains uncertain and insufficiently understood. But even absent a more adequate project description, it is reasonably foreseeable that DCP operations may result in reduced water supply that will have an impact on the environment, including waterfowl and giant garter snakes. Accordingly, the SRS Contractors respectfully urge DWR to address the full extent of environmental impacts resulting from changes to surface water resources and water supply in its ongoing review of DCP.	

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542-7	3. The Draft EIR Must Adequately Identify and Provide Sufficient Mitigation of Cumulative Impacts. The programs, projects, and policies considered for cumulative impact analysis are identified in Table 3C-2 of the Draft EIR, but the Draft EIR omits any discussion of cumulative impacts on surface water (Chapter 5) or water supplies (Chapter 6), contrary to CEQA guidelines. (CEQA Guidelines, sections 15130(a)(1), (b).) Instead, the Draft EIR refers to the impact analyses elsewhere in the document for analysis of the effects of changes to SWP and CVP deliveries or exports on water quality (Chapter 9), but not on surface water or water supplies. As explained above [comments 5 and 6], the Draft EIR should include an analysis of impacts -- including cumulative impacts -- of the DCP on surface water and water supplies.	The assertion by the comment that impacts on surface water or water supplies are omitted from the EIR and that any cumulative impacts thereto have not been appropriately evaluated in the EIR is not consistent with the analysis contained in the EIR. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding a discussion of Chapter 5, Surface Water, and Chapter 6, Water Supply, and the evaluation of water-dependent resources throughout the EIR. Chapters 5 and 6 disclose the changes in hydrologic characteristics attributable to each project alternative including reservoir storage, river flows, and water deliveries. See Chapters 7–32 regarding an analysis of environmental impacts and proposed mitigation measures on multiple environmental resources related to surface water and water supply changes, including Chapter 7, Flood Protection; Chapter 8, Groundwater; Chapter 9, Water Quality; Chapter 12, Fish and Aquatic Resources; Chapter 13, Terrestrial Biological Resources; Chapter 15, Agricultural Resources; Chapter 29, Environmental Justice; and Chapter 31, Growth Inducement. Please review those chapters for the analyses of potential cumulative impacts affecting those resources.
542-8	The Draft EIR should also include consideration of the cumulative impacts that would result from the adoption of the Bay-Delta Water Quality Control Plan Update (the “Update”) currently under development by the State Water Resources Control Board, including the proposed Voluntary Agreements. Both phases of the Update are mentioned in Table 3C-2. (Draft EIR at 3C-66.) However, the cumulative impacts analysis is based on D-1641 requirements. (Draft EIR at 9-29-30.) The foreseeable cumulative effects of the adoption of the proposed Update and the Voluntary Agreements are not described in the Draft EIR’s sections on Surface Water, Water Supply, Water Quality, or in the Project Description. As a result, there is not	Please see Common Response 1 regarding the CEQA environmental baseline and conditions included in baseline. The cumulative list identified in Appendix 3C, Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions, lists the updates to the Bay-Delta Water Quality Control Plan as a cumulative project to be considered. The cumulative analysis in Chapter 9, Water Quality, qualitatively considers potential changes under the updates to the Bay-Delta Water Quality Control Plan as it relates to the cumulative water quality condition and the alternatives. Assumptions regarding North of Delta operations, including Shasta carryover storage, are included in Appendix 5A, Modeling Technical

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	an adequate basis for determining, as required by CEQA, whether the Project's contribution to cumulative surface water and water supply impacts would be significant. The California Natural Resources Agency (CNRA) is advocating in favor of increased carryover storage targets at Shasta Reservoir that are not clearly part of the Draft EIR modeling. (See CNRA, et al. v. Raimondo, et al., E.D. Cal. Feb. 20, 2020, 4:20-cv-01299, ECF No. 1, 89.) Based on CNRA's position in that litigation, it is reasonably foreseeable to DWR that increased carryover storage targets, resulting in additional spring flood control releases from Shasta that could be diverted by DCP, may be imposed in the future such that a cumulative impact analysis that includes such targets is required. (Id., E.D. Cal. Nov. 23, 2021, 4:20-cv-01299, ECF No. 220, at p. 12.) Although Table 3C-2 references the 2019 Biological Opinions as assumed existing conditions, the cumulative analysis does not identify or address Shasta carryover storage at all.	Appendix, Section B, Hydrology and Systems Operations Modeling. Potential future changes that may be contemplated regarding Shasta or carryover storage do not meet the criteria for inclusion in the analysis as outlined in Appendix 3C, Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions. Please also see response to comment 542-7, which addresses the intent of, and information contained in, Chapter 5, Surface Water, and Chapter 6, Water Supply. If voluntary agreements are implemented potentially as part of the Bay-Delta Water Quality Control Plan Update, they would change the regulatory baseline that the Delta Conveyance Project operates within. Appendix 4C, Alternate Regulatory Scenario Sensitivity Analysis, assesses an alternate regulatory scenario that potentially represents a regulatory baseline scenario under conditions similar to voluntary agreements to determine if the alternative regulatory scenario would have the potential to increase the severity of the impacts of the Delta Conveyance Project disclosed in the EIR chapters. As described in Appendix 4C, "Given the uncertainty regarding the updates to the Bay-Delta Plan, this appendix describes a potential Alternate Regulatory Scenario that considers possible regulatory requirements for water quality and flow when an updated Bay-Delta Plan is implemented." Appendix 4C describes that the effects of the Delta Conveyance Project, under one alternate regulatory scenario, would not worsen from those described in EIR chapters.
542-9	A project of this scale requires that the public be able to meaningfully understand the full range of potential impacts. By omitting consideration of many impacts of concern to water users in the Sacramento Valley, the Draft EIR does not meet CEQA's requirement that the document adequately inform the public of the scope and potential impacts of a proposed project. The SRS Contractors appreciate the opportunity to comment on the Draft EIR. Thank you for your consideration of these comments.	The Delta Conveyance Project EIR has been prepared in compliance with CEQA and evaluates the full range of potential impacts that may result from construction and operation of the proposed project and its alternatives. Responses to comments 542-2 through 542-8 include discussion regarding the scope of impacts evaluated, specifically potential impacts on water users in the Sacramento Valley, and why the EIR fully evaluates the effects.

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542-10	EXHIBIT A Anderson-Cottonwood Irrigation District Beverly F. Andreotti, et al. Carter Mutual Water Company City of Redding Conaway Preservation Group, LLC David and Alice Te Velde Family Trust Glenn-Colusa Irrigation District Henry D. Richter, et al. Knights Landing Investors, LLC Maxwell Irrigation District Meridian Farms Water Company Natomas Central Mutual Water Company Oji Brothers Farm, Inc. Oji Family Partnership Pacific Realty Associates (aka M & T Chico Ranch) Pelger Mutual Water Company Pelger Road 1700, LLC Pleasant Grove-Verona Mutual Water Company Princeton-Codora-Glenn Irrigation District Provident Irrigation District Reclamation District No. 108 Reclamation District No. 1004 River Garden Farms Company RRG Garden Properties, LLC Sutter Mutual Water Company Tisdale Irrigation and Drainage Company Windswept Land and Livestock Company	The commenter provided this list of contributors for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.
542-11	[ATT 2:] MBK Engineers (MBK) evaluated the modeling performed by the California Department of Water Resources (DWR), which represents operation of the State Water Project (SWP) and	This information describes the structure or organization of the comment letter or clarification on the submittal of the comment letter. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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	Central Valley Project (CVP) with the Delta Conveyance Project (DCP), and portions of the Draft Environmental Impact Report (DEIR), and appendices. The review focused on modeling of the Preferred Alternative (Alternative 5) under 2020 hydrology. The most significant items identified by the review are related to modeling constraints on Delta exports, model assumptions on shared benefits and the obligations of the SWP and CVP, and the modelling limits on release and re-diversion of stored water.	This attachment was submitted by multiple commenters; it has been responded to in letter 545. Please refer to comments 545-9 through 545-14 for specific responses to the comments in this attachment.
542-12	[ATT 2:] Modeling Limits on Delta Exports The preferred alternative does not maximize the use of the North Delta Diversion (NDD) when the Delta is in an excess but constrained condition. Excess but constrained conditions occur under current operations when regulatory requirements restrict the CVP's and SWP's ability to export water from the Delta, resulting in Delta outflow in excess of what is required to meet outflow and water quality requirements. Regulatory requirements, such as limits on reverse flows in Old and Middle River (OMR), are a common cause of excess but constrained conditions because the requirements limit exports at existing pumping facilities in the South Delta. The DCP is intended to divert Delta outflow in excess of the minimum required Delta outflow (MRDO) by diverting water at the NDD. Using the NDD rather than the existing South Delta Diversion (SDD) when the Delta is in an excess but constrained condition, could increase exports for both the CVP and SWP because NDD diversions are not always constrained by excess but constrained conditions. DEIR Appendix 05A, Section B, Page B-63 states that "the operation rules could result in months when simulated	Please refer to response to comment 545-9 regarding this issue raised in the attachment.

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	diversions through the proposed north Delta intakes are not maximized, even when the bypass flow requirements would allow greater diversions." The DEIR does not describe or demonstrate when these conditions occur in the modeling, how frequently use of NDD facilities are limited, nor why NDD operations are not maximized. It is unclear whether the modeled operational rules are intended to become actual operational requirements if the DCP is constructed. Additional clarification would help the reader understand if the DCP alternatives fully cover the maximum range of potential operations and project effects.	
542-13	[ATT 2:] Additionally, as stated in DEIR Appendix 05A, Section B, Page B-63, "Shifting of exports from the south Delta intakes to the proposed north Delta intakes only occurs when there is an operational advantage to doing so in terms of carriage water savings." The DEIR does not describe the operational criteria for this shift, the volume of this shift, or when it occurs. The DEIR does not state if this criterion would be discretionary; if it is discretionary, DWR has not modeled an alternative that would demonstrate the maximum use of the NDD. Therefore, benefits and impacts of the NDD may be understated in the DEIR. Currently, Alternative 5 prioritizes SDD and there is a sensitivity analysis that prioritizes NDD; however, there is no alternative that maximizes combined NDD and SDD use allowable under current regulatory requirements, operating agreements, and proposed DCP operations. As a result, the potential effects of maximum allowed exports with the DCP have not been analyzed.	Please refer to response to comment 545-10 regarding this issue raised in the attachment.
542-14	[ATT 2:] Model Assumptions on Shared CVP/SWP Obligations and Benefits	Please see response to comment 545-11 regarding this issue raised in the attachment.

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	The DCP and NDD increase total SWP/CVP diversions from the Delta. Increases in total diversions from the Delta, and the corresponding decreases in Delta outflow will increase Delta salinity and may result in greater Delta outflow required to meet salinity requirements in future months. CalSim 3 modeling of the Preferred Alternative shows MRDO needed to meet standards contained in State Water Resources Control Board Decision 1641 (D-1641) [Footnote 1: D-1641 is the implementation plan for the 1995 Bay-Delta Water Quality Control Plan, with respect to the operation of water projects within the Delta watershed. D-1641 includes water right permit terms and conditions to implement water quality objectives to protect Municipal and Industrial (M&I) beneficial uses in the Delta, as well as water quality objectives to protect Fish and Wildlife beneficial uses. D-1641 contains flow and water quality objectives that must be measured at various compliance monitoring stations throughout the Delta] increases an average of 40 thousand acre-feet (TAF) per year in DCP Alternative 5 when compared to Existing Conditions. MRDO is a shared obligation of the SWP and CVP under the Coordinated Operations Agreement (COA) for the projects [Footnote 2: 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]. An increase in MRDO increases the obligation on both projects and can be a risk to water users of both the SWP and CVP as increased obligations would be met either by reductions in water deliveries or increased releases from SWP and CVP reservoirs. Modeling results show migration of X2 [Footnote 3: 3 X2 is the location of the 2 parts per thousand salinity contour	

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	(isohaline), one meter off the bottom of the estuary, as measured in kilometers upstream from the Golden Gate Bridge. The abundance of several estuarine species has been correlated with X2] inland in almost every month of the CalSim 3 simulation; this eastward movement of X2, due to increases in Delta exports, demonstrates that the salinity field is moving eastward and increasing salinity in the Delta. Any resulting changes in MRDO associated with the increasing salinity in the Delta would be shared by the SWP and CVP under COA and result in additional water supply risk to water users of both projects.	
542-15	[ATT 2:] Conversely, the use of the NDD can also reduce the water needed for Delta Outflow to maintain Delta salinity standards for a given rate of Delta exports, commonly referred to as carriage water. DCP modeling shows a reduction in carriage water costs and shares this water savings between both the SWP and CVP. The DEIR states in Appendix 05A, Section B, Page B-63 that "[c]arriage water benefits of these operations are split between the SWP and CVP according to COA, with priority placed on exporting this water. Any carriage water savings that cannot be exported are backed up into north of Delta storage." The DEIR does not describe if this is an intended or incidental benefit that is shared with the CVP. The modeling shows a carriage water savings and an increase in the water cost of meeting X2 and salinity requirements that are shared with the CVP. The DEIR does not fully evaluate the additional water costs associating with increases in X2, salinity requirements, and the carriage water savings explicitly and in a detailed manner including the frequency and conditions when each effect could occur. Additionally, the increased MRDO may lead to increased instances of Term 91 by increasing presence of	Please see response to comment 545-12 regarding this issue raised in the attachment.

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	supplemental water as defined in SWRCB Water Right Order 81-15, which would result in loss of access to water supply for water users whose water right permits contain this restriction.	
542-16	[ATT 2:] Modeling Constraints on Use of Stored Water Release and conveyance of SWP stored water from Oroville is constrained in the modeling of the Preferred Alternative by criteria that are inconsistent with existing SWP operations. Current SWP operational objectives allocate and move stored water with available SDD capacity until Oroville carryover storage is 1.6 million acre-feet (MAF). This operation is simulated as part of the Existing Conditions in modeling for the DEIR. The DCP provides additional capacity for the SWP to export water from the Delta, and when combined with current SWP operations, could result in more frequently drawing carryover storage in Oroville down to 1.6 MAF. However, modeling of the Preferred Alternative does not fully utilize the additional capacity provided by the DCP to move stored water when Oroville carryover is greater than 1.6 MAF. Although there is additional release and conveyance of stored water from Oroville in modeling of the Preferred Alternative, it is limited in the modeling to a greater extent than described in the project description in the DEIR. There are no operating criteria described in the DEIR that prevent exports of stored water through NDD, and the effects of utilizing the additional capacity provided by DCP to convey additional stored water were not evaluated. Increases in release of stored water from Oroville may result in lower storage in dry and critical years and increase risk to Feather River Settlement Contractors. Additionally, lower storage in Oroville can be a risk to the CVP	Please see responses to comments 545-11 and 545-14 regarding the issues raised in this attachment.

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	if Oroville storage is not adequate to meet the shared obligations of both projects. The DEIR in Appendix 05A, Section B, Page B-63 states that "for the SWP only, releases of up to 100 TAF/year can be made from Lake Oroville in wetter years for diversion at the north Delta intakes from July through September." This operating criterion is not a component of the project description, but rather an assumption used for modeling purposes. It is unclear whether the modeled operational rule is intended to become actual operational requirements if the DCP is constructed. Additional clarification would help the reader understand if the DCP alternatives fully cover the maximum range of potential operations.	
542-17	Attachment 3: Declaration of Joe Kimmelshue regarding the acreage in the Sacramento Valley under production for rice between 2014 to 2022 within the production areas serviced by the SRS Contractors and Tehama-Colusa Canal Authority. U.S. District Court Cases 1:20-cv-00431-JLT-EPG and 1:20-cv-00426-JLT-EPG.	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
542-18	Attachment 4: Declaration of Dr. Mark Petrie regarding the environmental effects of reduced water supply on rice production and food and habitat for waterfowl. U.S. District Court Cases 1:20-cv-00426-DAD-EPG and 1:20-cv-00431-DAD-EPG.	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
542-19	Attachment 5: Sacramento Bee article titled "Pacific Flyway birds will suffer without soaked rice fields," dated May 15, 2022.	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
542-20	Attachment 6: Declaration of Dr. Eric Hansen regarding the environmental effects of reduced water supply on rice production and giant garter snake populations. U.S. District	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.

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	Court Cases 1:20-cv-00426-DAD-EPG and 1:20-cv-00431-DAD-EPG. .	
542-21	Attachment 7: Declaration of Dr. Eric Hansen regarding the environmental effects of reduced water supply on rice production and giant garter snake populations. U.S. District Court Cases 1:20-cv-00431-JLT-EPG and 1:20-cv-00426-JLT-EPG.	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
544-1	The Tulare Lake Basin Water Storage District (District) is an agricultural district that delivers surface waters from multiple sources to its landowners. The District contracted for State Water Project (SWP) water to provide a more dependable surface water supply for lands within the District and reduce groundwater pumping. The District appreciates the opportunity to comment on the Delta Conveyance Project Draft Environmental Impact Report (DCP DEIR).	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
544-2	The SWP is a critical part of the District's [Tulare Lake Basin Water Storage District] conjunctive use and groundwater management programs. The current trend of reduced and interrupted SWP supplies and increasing costs has had significant impacts on the District and surrounding area. SWP deliveries have been repeatedly interrupted and reduced due to operational conflicts with threatened and endangered species in the Delta. The reduced reliability of the SWP supplies, coupled with the increased costs of these supplies, has resulted in significant impacts to the District. The District is concerned, however, that the Department of Water Resources' (DWR) singular fixation on a single-pipeline project that is technically and legally challenging and incredibly expensive will not meaningfully reduce operational conflicts in the Delta. DWR must first protect the existing SWP assets it has now, and	Please see Chapter 2, Purpose and Project Objectives, regarding the purpose and objectives of the Delta Conveyance Project, which include among others protecting the ability of the SWP, and potentially the CVP, to deliver water when hydrologic conditions result in the availability of sufficient amounts of water, consistent with the requirements of state and federal law, including the California and federal Endangered Species Acts and Delta Reform Act, as well as the terms and conditions of water delivery contracts and other existing applicable agreements. Please see Appendix 3A, Identification of Water Conveyance Alternatives, for a detailed discussion of the identification of alternatives and screening process used to determine the alternatives analyzed in the EIR. Please see Common Response 3, Alternatives Development and Description, regarding the reasonable range of potentially feasible alternatives considered as well as a discussion regarding water rights and contracts. The Delta Conveyance Project is one of a portfolio of projects and does not preclude local and

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	must not undertake DCP in a manner that adversely affects existing SWP supplies and SWP contractors that opt-out of DCP benefits.	regional water agencies from pursuing other projects. Please also refer to Common Response 7, Implementation Considerations, regarding costs and financing. Without the Delta Conveyance Project, SWP water supplies would continue to degrade because of climate change, sea level rise, and other factors, as described for the No Project Alternative in Chapter 6, Water Supply. If SWP contractors do not participate in the Delta Conveyance Project, their SWP supplies would continue to be reduced as under the No Project Alternative, but the Delta Conveyance Project would not cause or exacerbate these supply reductions.
544-3	Impermissible Piecemealing It is well-settled that an agency cannot skirt the requirements of CEQA by piecemeal environmental review. [Footnote 1: Lighthouse Field Beach Rescue v. City of Santa Cruz (2005) 31 Cal.App.4th 1170, 1208.] Such "piecemealing" occurs when a large project is chopped into many smaller projects, each with minimal environmental impacts that may be cumulatively disastrous. [Footnote 2: Bozung v. Local Agency Formation Com. (1975) 13 Ca l.3 d 263, 283-284.] Here, DWR has divided the former Water Fix project into three separate EIRs- one for the SWP contract extension, a second for the contract amendments, and a third EIR for the physical WaterFix project now rebranded as the Delt a Conveyance Project. Furthermore, DWR has already issued bond resolution(s) to finance DCP prior to project approval. It is anticipated that a contract amendment will allow SWP contractors to opt-out of DCP water supply benefits, which some contractors will do for financial reasons. Too many opt-outs could affect the financial viability of DCP itself. There is also the concern that DCP operations will adversely affect the water supply for contractors that opt-out. These issues are relevant in the CEQA context for the DCP DEIR because the direct economic impact	The comment's assertions that DWR has divided the project into three separate EIRs is unfounded. The three separate EIRs mentioned in the comment are for three separate efforts. The Delta Conveyance Project EIR evaluates the project as a whole and does not piecemeal project elements as the comment claims. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the analysis of the project as a whole. As described in Chapter 1, Introduction, the Delta Conveyance Project would modify the State Water Project to include north Delta diversions for the purpose of restoring and protecting the reliability of SWP water deliveries south of the Delta consistent with the California Water Resilience Portfolio (California Natural Resources Agency et al. 2020), in a cost-effective manner. Chapter 2, Purpose and Project Objectives, more fully describes the purpose and objectives of the project, which focus on the SWP's ability to respond to sea level rise and climate change, minimize disruption of SWP operations from earthquakes in and around the Delta, improve water supply reliability, and provide operational flexibility. Please see Chapter 4, Framework for the Environmental Analysis, regarding the requirements of CEQA and particularly the Chapter 4 section titled Analysis Level of Detail, which quotes CEQA Guidelines Sections 15151, 15204, and 15146.

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	of DCP on participating contractors and indirect economic impact on non-participating contracts is significant and may drive significant changes in agricultural production and land use. DWR is impermissibly piecemealing its environmental review by dividing the Water Fix project into three projects and undertaking a separate EIR for each. DWR has not sufficiently addressed the scope of the larger project in the present DCP DEIR.	Please see Chapter 1 for a description of the State Water Project and background information regarding how water supply has been developed and managed in California. Please also refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the project's purpose and objectives, including DWR's continuing commitment to operate the State Water Project as modified to include the Delta Conveyance Project in compliance with all state and federal water quality and environmental laws. Please also refer to Common Response 3, Alternatives Development and Description, regarding alternatives development process and the range and scope of alternatives considered. Please see Common Response 7, Implementation Considerations, regarding project costs and funding, which are beyond the scope for the CEQA analysis.
544-4	Predetermination of Project A lead agency cannot prejudge and predetermine that a project should be approved prior to completion of CEQA review. "The full consideration of environmental effects CEQA mandates must not be reduced to a process whose result will be largely to generate paper, to produce an EIR that describes a journey whose destination is already predetermined. "Save Tara v. City of West Hollywood {2008) 45 Cal.4th 116, 135 (internal citations and quotations omitted). The DCP DEIR is the third iteration of a State Delta conveyance project following the California WaterFix and Bay Delta Conservation Plan (BDCP) (fourth if the CALFED Bay-Delt a Program EIR is considered the first serious attempt). Each iteration becomes a smaller, less comprehensive project. The DCP DEIR abandons the aquatic and wetland habitat restoration that was a hallmark of the WaterFix/EcoRestore and BDCP proposals. The DCP DEIR proposes only new North Delta diversion and conveyance facilities to facilitate exports south of the Delta.	Please see Chapter 1, Introduction, for a description of the State Water Project and background information regarding how water supply has been developed and managed in California. Please also refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the project's purpose and objectives, including DWR's continuing commitment to operate the State Water Project as modified to include the Delta Conveyance Project in compliance with all state and federal water quality and environmental laws. The comment's assertion that DWR has prejudged and predetermined that the project should be approved prior to completion of CEQA review is not consistent with the analysis provided in the EIR. Please refer to Common Response 1 regarding the adequacy of the purpose statement for the purposes of CEQA, which is sufficiently broad to consider alternatives that do not include diversion facilities, the lead agency's discretion in identifying the purpose and objectives, and the consideration of other objectives such as Delta restoration.

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	Governor Newsom directed DWR to abandon the WaterFix/EcoRestore project and pursue a single tunnel project in 2019. (Executive Order (EO) N-10-19.) This direction is summarized in DWR' s Modernizing Delta Conveyance Infrastructure Q&A. [Footnote 3: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Delta-Conveyance/Modernizing-Delta-Conveyance-Infrastructure-QA-9419a.pdf?la=en&hash=5DC8C7C9AEF9E27666EC01702EFAD3E26B6D01A7]: 4. What's happening with WaterFix? Governor Newsom recently directed his state agencies to develop a portfolio approach to make California's water supplies climate resilient. This strategy will build local resilience across the state and is appropriately paired with a single tunnel, smaller capacity project. Under the Governor's direction, the state is formally withdrawing pursuit of the proposed twin-tunnel Water Fix project. The state is withdrawing all approvals made in compliance with the California Environmental Quality Act and the federal and California Endangered Species Acts, as well as the water rights petition in front of the State Water Resources Control Board. The state will begin environmental permitting, engineering and stake holder engagement to pursue a sing le tunnel solution to modernize Delta conveyance. Similarly, the July 2020 Water Resilience Portfolio directs DWR to "Plan, permit and build new diversion and conveyance facilities (such as a tunnel) in the Sacramento- San Joaquin Delta to safeguard State Water Project, and, potentially, Central Valle y Project deliveries drawn from the Sacramento	Contrary to the comment, a wide range of alternatives were considered but many were screened out for further analysis. Please see Appendix 3A, Identification of Water Conveyance Alternatives, and Common Response 3, Alternatives Development and Description, regarding the alternatives development and screening process and the range feasible of alternatives considered. Please also see Chapter 12, Fish and Aquatic Resources, and Chapter 13, Terrestrial Biological Resources, regarding project impacts on aquatic and wildlife resources and proposed mitigation to avoid and reduce impacts, including loss of habitat and invasive species. Furthermore, please see Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources, for details on aquatic and wetland habitat restoration proposed as compensatory mitigation. Please see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding DWR’s levee management efforts in the Delta.

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	and San Joaquin river systems" (P. 24, Proposal 19.2. [Footnote 4: https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/Final_California-Water-Resilience-Portfolio-2020_ADA3_v2_ay11-opt.pdf]} The DCP DEIR differs from the prior conveyance project proposals in that a single tunnel is the only conveyance facility alternative under consideration. The DCP DEIR is evidently prejudging and predetermining that a single tunnel project is the only conveyance project DWR will consider. While the District supports reasonable and cost-effective conveyance improvements, it begs the question whether marginal conveyance improvements would result if the numerous other Delta stressors such as degraded habitat, invasive species, and western Delta levee integrity are not addressed.	
544-5	Impermissibly Narrow Purpose and Objectives CEQA Guidelines Section 15124, subd. (b) provides that a clearly written statement of objectives will help the Lead Agency develop a reasonable range of alternatives to evaluate in the EIR and will aide decision makers in preparing findings or a statement of overriding considerations if necessary. The statement of objectives should include the underlying purpose of the project." The DCP DEIR's narrow purpose is to "develop new diversion and conveyance facilities in the Delta necessary to restore and protect the reliability of SWP water deliveries and, potentially, Central Valley Project (CVP) water deliveries south of the Delta consistent with the State's Water Resilience Portfolio in a cost-effective manner." (DCP DEIR, §1.3.1.} As stated above, the Water Resilience Portfolio proscribes that the conveyance facility shall be a single tunnel. Consistent with the narrowly limited project purpose, the DCP DEIR adopts project objectives that can be met only by a single tunnel	Please see response to comment 544-4 regarding the project's purpose and objectives and the reasonable range of potentially feasible alternatives analyzed in the EIR. Please also see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the adequacy of the purpose and objectives statements for the purposes of CEQA. Please also see Common Response 3, Alternatives Development and Description, for more information about the reasonable range of alternatives analyzed in the EIR. As described in Chapter 1, Introduction, and more fully described in Chapter 2, Purpose and Project Objectives, the purpose of the project is to restore and protect the reliability of SWP water deliveries south of the Sacramento-San Joaquin Delta (Delta), consistent with the California Water Resilience Portfolio (California Natural Resources Agency et al. 2020), in a cost-effective manner. The objectives focus on the SWP's ability to respond to sea level rise and climate change, minimize disruption of SWP

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	project: address sea level rise, climate change and extreme weather; minimize risk to south-of-Delta exports from earthquakes; to take advantage of certain diversions when endangered species and hydrologic conditions permit that is a poorly disguised code phrase for Sacramento River water that could not be diverted without an isolated conveyance facility like a single tunnel [Footnote 5: The third objective is: "To protect the ability of the SWP, and potentially the CVP, to deliver water when hydrologic conditions result in the availability of sufficient amounts, consistent with the requirements of state and federal law, including the California and federal Endangered Species Acts and Delta Reform Act, as well as the terms and conditions of water delivery contracts and other existing applicable agreements." (DCP DEIR, § 1.3 .1.)]; and to provide general operational flexibility. These project purposes and objectives are not broad enough to permit selection of a reasonable range of alternatives.	operations from earthquakes in and around the Delta, improve water supply reliability, and provide operational flexibility. The State of California, in the Water Resilience Portfolio, identifies a suite of complementary actions to ensure safe and resilient water supplies, flood protection, and healthy waterways for the state's communities, economy, and environment.
544-6	Does Not Consider a Reasonable Range of Alternatives If the DCP project objectives sought to address sea level rise and extreme weather affecting State and SWP facilities in the Delta-including West Delta levees that are essential for maintaining in-Delta water quality, Delta outflows, and preventing salinity intrusion, in addition to Clifton Court Forebay and the Banks Pumping Plant - DCP would be broader and would logically consider multi-benefit conveyance, habit and levee improvement alternatives. The failure to consider broader objectives meeting the basic project purpose has limited the DEIR from considering a reasonable range of alternatives, including alternatives that would meaningfully protect western and central Delta from sea level rise and extreme conditions. DWR should first ensure the protection of	Please see responses to comments 544-4 and 544-5 regarding the project's purpose and objectives and the reasonable range of potentially feasible alternatives analyzed in the EIR. Please also see Common Response 6, Climate Resilience and Adaptation, regarding how the project will provide climate change resilience to the State Water Project. Please also see Common Response 1, CEQA Process, General Approach to Analysis and Other Environmental Review Issues, regarding the scope of the project objectives related to seismic events and climate change.

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	the levees and infrastructure we already have; a new tunnel facility for Sacramento River diversions provides no benefit to essential in-Delta diversion infrastructure. Of the four primary alternatives (dual conveyance, isolated conveyance, through-Delta with proposed diversion facility, and through-Delta with proposed diversion facility), any alternatives that lack a north Delta tunnel fail to meet the narrow project objectives.	
544-7	Sea Level Rise and Earthquake Resilience Only North Delta tunnel projects alternative are considered in the DCP DEIR because, theoretically, these are the only conveyance facility alternatives that meet the DCP project objectives for resilience to sea level rise and earthquakes. It is correct that new tunnel diversion intakes located in the North Delta would be less vulnerable to sea level rise and earthquakes than a water conveyance corridor through channels in the West and Central Delta adjacent to deeply subsided islands, but resilience of the tunnel means little if the major West Delta levees that repel brackish tidal waters from the North Delta fail.	Please see response to comment 544-4 regarding the project's purpose and objectives and the reasonable range of potentially feasible alternatives analyzed in the EIR. Please see Common Response 6, Climate Resilience and Adaptation, regarding how the project will provide climate change resilience to the State Water Project, protecting it from sea level rise and from seismic events. Please see Chapter 30, Climate Change, regarding sea level rise, particularly the Potential Impacts of Alternatives section and the subsection Resilience and Adaptation Benefits. The project would be built with consideration of climate change by designing to modeled conditions and thus is expected to have a low level of risk for direct climate change effects such as sea level rise.
544-8	Climate Supply Modeling Uncertainty The key premise underlying DCP is that predicted future climate will result in greater winter precipitation and higher winter inflow than historic patterns, and that a North Delta tunnel will more efficiently capture these flows than the existing South Delta pumps can. Relying on predictive models of a highly uncertain climate future is a big gamble for a $16 billion DCP. The DCP DEIR does not address the climate research that indicates many climate models overestimate	Please see Appendix 5A, Modeling Technical Appendix, regarding the climate change assumptions used in the analysis and uncertainties in the modeling. Please also see Common Response 9, Hydrologic Modeling and Approach, for additional information regarding the assumptions and scenarios used for climate change. Please also refer to Chapter 4, Framework for the Environmental Analysis, for a list of additional information provided that presents longer-term analysis that incorporate changes that would be expected as a result of

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	future winter precipitation. (L. Dong, L.R. Leung, J. Lu, and F. Song. 2021. "Double-lTCZ as an Emergent Constraint for Future Precipitation Over Mediterranean Climate Regions in the North Hemisphere." Geophysical Research Letters 48, accessible at https://doi.org/10.1029/2020GL091569; B. Bane, "Error Correction Means California's Future Wetter Winters May Never Come," accessible at https://phys.org/news/2020-12-error-california-future-wetter-winters.html#:~:text=Correcting%20for%20the%20bias%20reduces%20winter%20precipitation%20projections,winter%20drying%20will%20be%20intensified%20by%2032%20percent.)	climate change and sea level rise by the year 2040, when the project would be operational. Additionally, please see Appendix 30A, CalSim 3 Results Sensitivity to 2040 Climate Change and Sea Level Projects regarding different climate change and sea level rise projections under the 2040 scenario than what were analyzed in the EIR for the No Project Alternative (2040) and Alternative 5 (2040). Please also refer to Appendix 4A, Consideration of 2070 Conditions, regarding the potential long-term conditions under climate change without the project. While these additional analyses are not required by CEQA, they are intended to provide additional information about how the project might operate in the future. Please see Common Response 6, Climate Resilience and Adaptation, for a discussion regarding future changes in temperature, precipitation, and salinity.
545-1	These comments are submitted on behalf of Western Canal Water District and the Joint Water Districts Board, the members agencies of which are Richvale Irrigation District, Butte Water District, Sutter Extension Water District, and Biggs-West Gridley Water District (collectively the "Feather River Agencies"). The Feather River Agencies hold senior water rights to divert and use water from the Feather River at the Thermalito Afterbay pursuant to long-standing agreements with the State of California acting by and through the California Department of Water Resources ("DWR"). The Feather River Agencies appreciate the opportunity to provide comments on the Delta Conveyance Project ("DCP") Draft Environmental Impact Report ("DEIR"). The Feather River Agencies' comments are set forth below. The comments refer to a technical analysis	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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	performed by MBK Engineers ("Technical Memorandum"), attached to this comment letter as Exhibit "A" [ATT 1] and incorporated herein by reference.	
545-2	The DEIR Does Not Adequately Define a Project. The DEIR and the modeling do not consistently define operational criteria that describe how the DCP will be operated under the preferred alternative. Specifically, the DCP allows for additional capacity to move State Water Project ("SWP") stored water for Delta export purposes, but criteria is not specified in the DEIR that is consistent with the modeled movement of stored water from Lake Oroville under the preferred alternative. The Feather River Agencies [Richvale Irrigation District and 3 water districts: Butte, Sutter Extension, and Biggs-West Gridley] have an interest in understanding how releases of water from Oroville are affected by the preferred alternative, including the increased capacity for drawdowns on carryover storage. The DEIR must describe the conditions and criteria that affect the release of water from Oroville, including whether assumptions made in the modeling are included in the project description. Modeling of the preferred alternative results in an increase in release of stored water from Oroville but the modeling constrains releases to a greater extent than described in the project description (Technical Memorandum [ATT 1] at "D. Modeling Limits on Use of Stored Water"). These criteria and any constraints should be identified in the project description. Currently, the DEIR does not limit additional movement of SWP water due to the North Delta diversion, with or without regard to the assumptions made in the modeling.	The language in Chapter 3, Description of the Proposed Project and Alternatives, regarding operating criteria and the integration of north Delta intakes with south Delta facilities has been revised to clarify that the assumptions used in the hydrologic modeling of SWP operations with the Delta Conveyance Project in place are an accurate depiction of actual project operations. Lake Oroville and other upstream storage facilities operations, as well as the coordinated SWP/CVP operations are accurately depicted and will continue to be managed consistent with the current and future regulatory and contractual obligations of the SWP. While the proposed Delta Conveyance Project may provide additional diversion capacity, DWR would operate it consistent with the criteria described and modeled in the EIR and would not increase storage withdrawal for exports (please refer to Chapter 3 for more details). Please also refer to Common Response 3, Alternatives Development and Description, regarding the EIR approach for facility operations. The Feather River settlement contracts do not contain provisions that require DWR to meet certain carryover storage provisions in Oroville. Additionally, see the response to comment 545-14 regarding export of stored water.

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545-3	Additionally, the increase in "carriage water" savings described in Appendix 05A, Section B, Page B-63 should be evaluated in the DEIR and project description. Currently, the DEIR does not specify how the Project will use and account for an increase in carriage water savings, if an increase is in fact realized. (Technical Memorandum [ATT 1] at Executive Summary section "Model Assumptions on Shared CVP/SWP Obligations and Benefits" and at Figure 12 in section "B. CVP/SWP Exports").	Please refer to Common Response 3, Alternatives Development and Description, for additional description of carriage water efficiencies created by the Delta Conveyance Project.
545-4	The DEIR Fails to Disclose or Analyze the Proiect's Effects on Existing Water Supplies and Fails to Evaluate Cumulative Impacts. Pursuant to the California Environmental Quality Act ("CEQA"), the EIR must analyze the project's impacts on existing water supplies and foreseeable future projects. "[I]n preparing an EIR, the agency must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect." Protect the Historic Amador Waterways v. Amador Water Agency, 116 Cal. App. 4th 1099, 1109 (2004). Consequently, when a project will cause changes in streamflow or water supply, CEQA requires the lead agency to analyze the potential environmental effects of those changes. Protect the Historic Amador Waterways v. Amador Water Agency, 116 Cal. App. 4th at 1109; Santiago County Water Dist. v. County of Orange, 118 Cal. App. 3d 818, 831 (1981) [EIR failed to provide adequate information about the project's impacts on water supplies where it was "silent on the effect of that delivery [to the proposed project] on water service elsewhere in the Water District's jurisdiction."].	Chapter 5, Surface Water, and Chapter 6, Water Supply, describe the potential changes to surface water resources and SWP/CVP water supply modeled for each of the project alternatives. The Delta Conveyance Project is not proposing changes to operations or amount of storage provided by upstream facilities. The Delta Conveyance Project also does not preclude future changes to the state's water supply either through modifications of the operation of existing facilities or increasing water storage. Chapters 5 and 6 disclose the changes in hydrologic characteristics attributable to each project alternative including reservoir storage, river flows, and water deliveries. Chapters 5 and 6 also explain that changes to surface water resources and water supply, by themselves, are not considered impacts of the project alternatives under CEQA but do serve as foundational information to help determine CEQA impacts on physical, natural, and social resources. These chapters were intended to serve as introductory chapters to describe changes in surface waters of the Sacramento River and San Joaquin River Basins, including the Delta, as well as water supply changes that could affect SWP and CVP operations. The potential changes were presented to provide a basis for understanding the potential impacts on other surface water–related resources, and cumulative impacts are described in subsequent resource chapters

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	The EIR must analyze the project's impacts on existing water supplies and foreseeable future projects. Cumulative impacts including the integration of the DCP into future conveyance projects are not analyzed by the DEIR and disclosed to the public (See also Technical Memorandum [ATT 1] at "D. Modeling Limits on Use of Stored Water"). The DEIR does not adequately describe how the DCP will be operated in conjunction with stored SWP supplies including Lake Oroville storage.	including Chapter 7, Flood Protection; Chapter 8, Groundwater; Chapter 9, Water Quality; Chapter 12, Fish and Aquatic Resources; Chapter 13, Terrestrial Biological Resources; Chapter 15, Agricultural Resources; Chapter 29, Environmental Justice; and Chapter 31, Growth Inducement. Please review those subsequent chapters for the analyses of potential cumulative impacts affecting those resources. Additionally, see the response to comment 545-14 regarding export of stored water.
545-5	The EIR must analyze the project's impacts on existing water supplies and foreseeable future projects. The Bay-Delta Water Quality Control Plan Update ("Bay-Delta Plan Update") and proposed Voluntary Agreements must be considered in the DEIR's project description and the DEIR's analysis on Surface Water, Water Supply, and Water Quality. CEQA requires a determination of whether the foreseeable cumulative effects of the Bay-Delta Plan Update, the Voluntary Agreements, and the DCP are significant. Similarly, proposed unimpaired flow obligations in the Bay Delta and Sacramento River tributaries, as well as a proposed Sites Reservoir project together with the aforementioned foreseeable projects may have cumulative impacts upon water supply and movement of surface water in and around the Delta. The DEIR lacks discussion of these impacts.	The cumulative impact analysis includes a qualitative evaluation of the Bay-Delta Water Quality Control Plan Update, as well as the proposed Sites Reservoir. Please see Common Response 1, CEQA Process, General Response to Analysis, and Other Environmental Review Issues, regarding baseline and conditions included in baseline. If the Voluntary Agreements are implemented as part of the Bay-Delta Water Quality Control Plan Update, they would change the regulatory baseline that the Delta Conveyance Project operates within. In the Draft EIR, Chapter 4, Appendix 4C, Alternative Regulatory Scenario Sensitivity Analysis, provides the results of an assessment of a new (hypothetical) regulatory baseline to determine if that would have the potential to increase the severity of the impacts of the Delta Conveyance Project. As described in Appendix 4C, in the section titled Introduction, “Given the uncertainty regarding the updates to the Bay-Delta Plan, this appendix describes a potential Alternate Regulatory Scenario that considers possible regulatory requirements for water quality and flow when an updated Bay-Delta Plan is implemented.” As described in the appendix, the effects of the Delta Conveyance Project, layered onto this alternate regulatory baseline, would not worsen from those described in the main body of the EIR.
545-6	The DEIR Does Not Promote or Protect Regional Self-Sufficiency	The Delta Conveyance Project is not proposing changes to operations or amount of storage provided by upstream facilities. The Delta Conveyance Project also does not preclude future changes to the state’s water supply

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	The DEIR does not adequately disclose or protect against the risk of injury to legal users of water, including in the Feather River region. Specifically, the DCP and the DEIR do not include operating criteria that prevent increases in release of stored water. The DCP and the North Delta diversion increase SWP and Central Valley Project (CVP) diversions from the Delta. The state policy on regional sustainability (Wat. Code, § 85021) mandates that "each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water-recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts." The DEIR should assess and address the risk of increased releases in stored water including north-of-the-Delta SWP and CVP supplies (see also Technical Memorandum [ATT 1] at "E. CalSim 3 Does Not Address Effects on Many Types of Water Users"). Alternatively, terms and conditions can be developed and implemented to prevent the movement of stored water.	either through modifications of the operation of existing facilities or increasing water storage. Furthermore, the Feather River settlement contracts do not contain provisions that require DWR to meet certain carryover storage provisions in Oroville. The following tables in Chapter 3, Description of the Proposed Project and Alternatives, describe the circumstances under which the project can divert water from the Sacramento River: the table titled Delta Conveyance Project Preliminary Proposed Operations Criteria; the table titled Proposed North Delta Diversion Bypass Flow and Pulse Protection Requirements; and the sub-table titled North Delta Diversion Bypass Flow Criteria. In addition, the Chapter 3 figure titled Seasonal Diversions graphically depicts how the project would operate. As described in Common Response 3, Alternatives Development and Description, proposed intakes would only be permitted to operate with regulatory protections of existing standards and as prescribed by the federal and state environmental permitting process.
545-7	[ATT 1:] Executive Summary Proponents of the Delta Conveyance Project (DCP) developed a Draft Environmental Impact Report (DEIR) and modeling analysis of the DCP. MBK Engineers (MBK) reviewed portions of the DEIR and modeling analysis of the DCP and determined the modeling constrains use of the proposed DCP more than the operating criteria defined in the DEIR, potentially understating effects of the DCP. Neither the modeling nor the DEIR provide enough information regarding proposed DCP operations and	The comment assertions regarding modeling and impacts on water supply are not supported by the analyses contained in the EIR. The Delta Conveyance Project would be operated within criteria limits described in the EIR, which are accurately represented by the hydrologic model. Diversions would occur when hydrologic conditions allow and would be within permitted volumes. Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding best available science and use of models and methodology to inform the analysis in the EIR related to water supply. Please refer to Common Response 3, Alternatives Development and Description, regarding how the project would be operated to shift diversions from the south Delta to the north Delta (during the summer and

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	operational limits to ensure there will not be impacts on water supplies to others.	fall) or divert water in the north Delta during excess flow conditions while meeting regulatory requirements (during the winter and spring). The analyses provided in Chapters 5 through 32 evaluate the potential impacts of the proposed operations for all alternatives. Please refer to Common Response 9, Hydrologic Modeling and Approach, and Appendix 5A, Modeling Technical Appendix, which discuss the use of available information, best available tools, and use of modeling results in the EIR. Please also refer to response to comment 545-10 regarding diversions and the requirements of D-1641, as well as information contained in Appendix 5A that provides additional information regarding the modeled representation of operations.
545-8	[ATT 1] Key Conclusions Regarding DCP DEIR Modeling MBK evaluated the modeling performed by the California Department of Water Resources (DWR) representing operation of the State Water Project (SWP) and Central Valley Project (CVP) with DCP. The review focused on modeling of the Preferred Alternative (Alternative 5) under 2020 hydrology. The most significant items identified by the review are related to modeling constraints on Delta exports, model assumptions on shared benefits and obligations of the SWP and CVP, and the modeling limits on release and re-diversion of stored water. The following sections provide an overview of each item and the associated risk.	This information describes the structure or organization of the comment letter. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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545-9	[ATT 1:] Modeling Limits on Delta Exports. The preferred alternative does not maximize the use of North Delta Diversion (NOD) facilities when the Delta is in an "excess, but constrained" condition. Excess but constrained conditions occur under current operations when regulatory requirements restrict the CVP's and SWP's ability to export water from the Delta, resulting in Delta outflow in excess of what is required to meet outflow and water quality requirements. Regulatory requirements, such as limits on reverse flows in Old and Middle River (OMR), are a common cause of excess but constrained conditions because the requirements limit exports at existing pumping facilities in the South Delta. The DCP is intended to divert Delta outflow in excess of the minimum required Delta outflow (MRDO) by diverting water at the NOD. Using the NOD rather than the South Delta Diversion (SOD) when the Delta is in an excess but constrained condition could increase exports for both the CVP and SWP because NDD diversions are not always constrained by excess but constrained conditions. DEIR Appendix OSA, Section B, Page B-63 states that "the operation rules could result in months when simulated diversions through the proposed north Delta intakes are not maximized, even when the bypass flow requirements would allow greater diversions." The DEIR does not describe or demonstrate when these conditions occur in the modeling, how frequently the use of NOD facilities are limited, nor why NDD operations are not maximized. It is unclear whether the modeled operational rules are intended to become actual operational requirements if the OCP is constructed. Additional clarification would help the reader understand if the DCP	The information provided in Chapter 3, Description of the Proposed Project and Alternatives, regarding the operation of the Delta Conveyance Project intakes is an accurate description of the criteria under which the project will operate. As discussed in Common Response 3, Alternatives Development and Description, the purpose of the project is not to change the existing operational criteria of upstream reservoirs. The hydrologic modeling conducted for each alternative is an accurate depiction of how each alternative would operate and the resulting changes in hydrologic conditions including river flows, reservoir storage, and water deliveries; modeling also included a simulation under excess but constrained conditions in the Delta. Those changes are summarized in Chapter 5, Surface Water, and provide information that is used to support the environmental assessment and allow an accurate comparison of impacts between alternatives. The north Delta diversions are maximized to the extent allowed by the proposed operational criteria, regulations, facilities and demands. As described in Chapter 3, section titled Integration of North Delta Intakes with South Delta Facilities, the SWP would first use the south Delta facilities to export water. This priority of operation is accurately modeled by CalSim 3 and reflected throughout the analyses contained in the EIR. Please see Common Response 9, Hydrologic Modeling and Approach, regarding CalSim 3 as the best available tool for hydrologic analysis. The results generated by CalSim 3 modeling are sufficient for use in the CEQA impact analysis for comparative purposes. Even though the proposed operational criteria for the Delta Conveyance Project may allow additional diversions, other factors such as downstream demands, Delta regulations, or facility limitations would limit the north Delta diversions as described in Chapter 3 and represented by the CalSim 3 modeling.

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	alternatives fully cover the maximum range of potential operations and project effects.	
545-10	[ATT 1] Additionally, as stated in DEIR Appendix OSA, Section B, Page B-63, "[s)hifting of exports from the south Delta intakes to the proposed north Delta intakes only occurs when there is an operational advantage to doing so in terms of carriage water savings." The DEIR does not describe the operational criteria for this shift, the volume of this shift, or when it occurs. The DEIR does not state if this criterion would be discretionary; if it is discretionary, OWR has not modelled an alternative that would demonstrate the maximum use of the NDD [North Delta Diversion]. Therefore, benefits and impacts of the NDD may be understated in the DEIR. Currently, Alternative 5 prioritizes SDD [South Delta Diversion] and there is a sensitivity analysis that prioritizes NDD; however, there is no alternative that maximizes combined NDD and SDD use allowable under current regulatory requirements, operating agreements, and proposed OCP operations. As a result, the potential effects of maximum allowed exports with the DCP have not been analyzed.	The modeling used in the EIR represents the proposed Delta Conveyance Project operations including seasonal shifting of south Delta exports to the proposed north Delta diversion. In Chapter 3, Description of the Proposed Project and Alternatives, section titled Integration of North Delta Intakes with South Delta Facilities, DWR identifies the general strategy to be employed during dual conveyance operations. The EIR acknowledges that during the late spring, summer, and fall, the Delta exports and proposed north Delta diversions would be balanced and adjusted to meet the requirements of D-1641. During the winter and spring months, seasonal shifting from south intakes to proposed north Delta intakes is not expected unless there is an operational advantage to do so at DWR's discretion. Normal operation of the north Delta intakes would occur during winter and spring months during excess flow conditions. Please see Common Response 3, Alternatives Development and Description, which provides clarification of circumstances in which operations may be seasonally shifted from south to north. Please see Common Response 9, Hydrologic Modeling and Approach, for a description of the CalSim 3 modeling process that mimics how the SWP would use the north Delta diversion to make the overall operation more efficient, by seasonally shifting exports from south to north when Jersey Point to Rock Slough are controlling south Delta export operations.
545-11	[ATT 1] Model Assumptions on Shared CVP/SWP Obligations and Benefits The DCP and NDD [North Delta Diversion] increase total	The information provided in Chapter 3, Description of the Proposed Project and Alternatives, regarding the operation of the Delta Conveyance Project intakes is an accurate description of the criteria under which the project will operate. As discussed in Common Response 3, Alternatives Development and Description, the purpose of the project is not to change

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	SWP/CVP diversions from the Delta. Increases in total diversions from the Delta, and the corresponding decreases in Delta outflow wilt increase Delta salinity and may result in greater Delta outflow required to meet salinity requirements in future months. CalSim 3 modeling of the Preferred Alternative shows MROO needed to meet standards contained in State Water Resources Control Board Decision 1641 (D-1641) [Footnote 1: D-1641 is the implementation plan for the 1995 Bay-Delta Water Quality Control Plan, with respect to the operation of water projects within the Delta watershed. D-1641 includes water right permit terms and conditions to implement water quality objectives to protect Municipal and Industrial (M&I) beneficial uses in the Delta, as well as water quality objectives to protect Fish and Wildlife beneficial uses. D-1641 contains flow and water quality objectives that must be measured at various compliance monitoring stations throughout the Delta] increases an average of 40 thousand acre-feet (TAF) per year in DCP Alternative 5 when compared to Existing Conditions. MRDO is a shared obligation of the SWP and CVP under the Coordinated Operations Agreement (COA) for the projects [Footnote 2: 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]. An increase in MRDO increases the obligation on both projects and can be a risk to water users of both the SWP and CVP as increased obligations would be met either by reductions in water deliveries or increase releases from SWP and CVP reservoirs. Modeling results show migration of X2 [Footnote 3: X2 is the location of the 2 parts per thousand salinity contour (isohaline), one meter off the bottom of the estuary, as	the existing operational criteria of upstream reservoirs. The hydrologic modeling conducted for each alternative is an accurate depiction of how each alternative would operate and the resulting changes in hydrologic conditions, including river flows, reservoir storage, and water deliveries. Those changes are summarized in Chapter 5, Surface Water, which provides information that was used to support the environmental assessment and allow an accurate comparison of impacts between alternatives. Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, Attachment 3, CalSim 3 Model Results for Existing Condition and Alternatives at 2020, subsections titled Shasta Storage, Folsom Storage, and CVP San Luis Storage, evaluate the effects of the proposed project and its alternatives on CVP storage. The subsection titled SWP and CVP South Delta Exports evaluates the effects of the proposed project and its alternatives on CVP south-of-Delta exports. These modeling results show overall benefits of the proposed project and its alternatives to the CVP with increases in storage, exports, and deliveries. This comment suggests that increased Coordinated Operation Agreement (COA) obligations due to eastward movement of X2 will increase water supply risk to CVP and SWP. Viewed in isolation, this may be true, but there are also COA benefits to both SWP and CVP due to carriage water savings and other factors that counterbalance these effects. More importantly, the modeling shows increases in upstream storages and exports for both CVP and SWP. While modeling results presented in the Appendix 5A, Section B, Attachment 3 section titled Delta Inflow (as defined in D-1641) indicate that salinity does increase, and X2 does move eastward slightly, all existing standards will continue to be met for X2, and salinity standards would not be violated.

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	measured in kilometers upstream from the Golden Gate Bridge. The abundance of several estuarine species has been correlated with X2] inland in almost every month of the CalSim 3 simulation; this eastward movement of X2, due to increases in Delta exports, demonstrates that the salinity field is moving eastward and increasing salinity in the Delta. Any resulting changes in MRDO associated with the increasing salinity in the Delta would be shared by the SWP and CVP under COA and result in additional water supply risk to water users of both projects.	Any upstream storage and water supply risks from increased salinity and eastward movement of salinity will be reduced by the storage benefits of the carriage water savings from the Delta Conveyance Project. This is why model results show slight increases in storage in upstream reservoirs.
545-12	[ATT 1] Conversely, the use of the NOD can also reduce the water needed for Delta Outflow to maintain Delta salinity standards for a given rate of Delta exports, commonly referred to as carriage water. Although carriage water requirements may be reduced, Delta salinity may still be increased as shown by the eastward movement of X2. DCP modeling shows a reduction in carriage water costs and shares this water savings between both the SWP and CVP. The DEIR states in Appendix OSA, Section B, Page B-63 that "[c]arriage water benefits of these operations are split between the SWP and CVP according to COA, with priority placed on exporting this water. Any carriage water savings that cannot be exported are backed up into north of Delta storage." The DEIR does not describe if this is an intended or incidental benefit that is shared with the CVP. The modeling shows a carriage water savings and an increase in the water cost of meeting X2 and salinity requirements that are shared with the CVP. The DEIR does not fully evaluate the additional water costs associating with increases in X2, salinity requirements, and the carriage water savings explicitly and in a detailed manner including the frequency and conditions when each effect could occur. Additionally, the increased MRDO may	Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the section titled North Delta Diversion Operational Criteria addresses the commenter's question regarding carriage water benefits; the modeling assumed that the carriage water savings would be split between the SWP and CVP according to the Coordinated Operation Agreement (COA). With respect to the question of intent, the model is built as a planning tool and simply responds to the rules and limitations documented in Appendix 5A, Section B, section titled CalSim 3 Model Components. The modeling conducted for the EIR assumed carriage water allocation would be determined through the existing provisions of the COA. This modeling approach is a reasonable depiction of how the Delta Conveyance Project would be operated for purposes of the environmental impact assessment disclosed in the EIR because the provisions of the COA are currently described and do not require speculation on the part of DWR. If the project is approved, there may be future coordination between DWR and the U.S. Bureau of Reclamation regarding allocation of carriage water savings due to operation of the project. If potential future coordination results in a proposed agreement to modify how carriage water is allocated, the agreement would require CEQA compliance. Therefore, if a potential future agreement proposed to allocate carriage water savings in a manner that falls outside of the parameters of the existing COA, subsequent CEQA review including

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	lead to increased instances of Term 91 by increasing presence of supplemental water as defined in SWRCB Water Right Order 81-15, which would result in loss of access to water supply for water users whose water right permits contain this restriction.	additional hydrologic modeling, or other analyses, may be required. Appendix 5A, Section B, in the subsection titled Wheeling and Sharing of North Delta Diversion Capacity, defines the term carriage water, and Footnote 19 to this appendix explains that carriage water costs (or savings) occur when compliance with D-1641 water quality objectives is controlling Delta operations. The comment speculates that the triggering of Term 91 would increase with the Delta Conveyance Project without any supporting analysis. As described in Common Response 9, Hydrologic Modeling and Approach, the frequency of when Term 91 is in effect under the project alternatives is similar to that under existing conditions, with no significant changes. Furthermore, even assuming a potential for increase in the instances of Term 91 triggering with Delta Conveyance Project, that in itself is not an impact, since SWP has senior water rights. Please also refer to Common Response 3, Alternatives Development and Description, regarding seasonal shifting of operations from the south Delta to the north Delta and carriage water savings.
545-13	[ATT 1] Carriage water savings are computed based on salinity requirements at the D-1641 stations of Jersey Point, Emmaton, and Rock Slough. The DEIR does not describe how the project would shift diversions from SDD to NDD [South Delta Diversion to North Delta Diversion] in real time operations. Although the DEIR states that moving SOD to NDD results in less Delta outflow (carriage water) needed to meet water quality, the DEIR does not describe how this shift would result in an overall change in water quality in the Delta. As per the salt balance calculations, an increased diversion of Sacramento water from the Delta (which is better in quality than San Joaquin water) could degrade the water quality in the Delta with prolonged	Please refer Common Response 3, Alternatives Development and Description, for additional explanation regarding carriage water savings/efficiency and under what conditions diversions would be shifted from the south Delta to proposed north Delta diversion facilities when salinity limits exports in the south Delta. Please also refer to Chapter 3, Description of the Proposed Project and Alternatives, regarding details on shifting from south Delta intakes to proposed north Delta intakes, and carriage water.

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	use of NDD facilities.	
545-14	[ATT 1] Modeling Constraints on Use of Stored Water. Release and conveyance of SWP stored water from Oroville is constrained in the modeling of the Preferred Alternative by criteria that are inconsistent with existing SWP operations. Current SWP operational objectives allocate and move stored water with available SDD [South Delta Diversion] capacity until Oroville carryover storage is 1.6 million acre-feet (MAF). This operation is simulated as part of the Existing Conditions in modeling for the DEIR (see Figure 16). The DCP provides additional capacity for the SWP to export water from the Delta, and when combined with current SWP operations, could result in more frequently drawing carryover storage in Oroville down to 1.6 MAF. However, modeling of the Preferred Alternative does not fully utilize the additional capacity provided by the DCP to move stored water when Oroville carryover is greater than 1.6 MAF (see Figure 17). Although there is additional release and conveyance of stored water from Oroville in modeling of the Preferred Alternative, it is limited in the modeling to a greater extent than described in the project description in the DEIR. There are no operating criteria described in the DEIR that prevent exports of stored water through NDD [North Delta Diversion] and the effects of utilizing the additional capacity provided by DCP to convey additional stored water were not evaluated. Increases in release of stored water from Oroville may result in lower storage in dry and critical years and increase risk to Feather River Settlement Contractors. Additionally, lower storage in Oroville can be a risk to the CVP if Oroville storage is not adequate to meet the shared obligations of both projects.	Please see Common Response 3, Alternatives Development and Description, regarding a description of the project operations in the Draft EIR, clarifications regarding project operations, and additional explanation of use of stored water and proposed north Delta diversion capacity. The EIR evaluates the reasonably foreseeable range of potential operations under each alternative. Chapter 3, Description of the Proposed Project and Alternatives, adequately describes the operations of the project for the purposes of environmental impact analysis. The modeling contained throughout the EIR and described in Appendix 5A, Modeling Technical Appendix, provides an accurate generalized representation of proposed project operations for each alternative evaluated. Please see Common Response 9, Hydrologic Modeling and Approach, regarding modeled assumptions for upstream operations and changes to storage and supply. As described in Common Response 3 and Common Response 9, the modeled conditions are based, in part, on the criteria developed for the operation of the intakes integrated with the existing facilities, regulatory requirements (e.g., D-1641) and agreements (e.g., COA), and they disclose the modeled changes to upstream CVP and SWP storage and deliveries, which show little or no change. This information is presented in Chapter 5, Surface Water, and Chapter 6, Water Supply (e.g., see the section in Chapter 5 titled Changes to SWP and CVP Reservoir Storage). As described in the information in Chapters 5 and 6, the modeled project operations result in minimal changes upstream and would not affect upstream water supplies. The comment indicates concerns that the project description does not include the same limitation on increasing releases from storage as the CalSim 3 modeling. However, Chapter 3 includes this text: “The north Delta intakes would be used to capture additional excess flows when the south Delta exports are limited and not able to capture those flows.” Furthermore, as described in Chapter 3, DWR does not intend to increase storage

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	The DEIR in Appendix OSA, Section B, Page B-63 states that "for the SWP only, releases of up to 100 TAF/year can be made from Lake Oroville in wetter years for diversion at the north Delta intakes from July through September." This operating criterion is not a component of the project description, but rather an assumption used for modeling purposes. It is unclear whether the modeled operational rule is intended to become actual operational requirements if the DCP is constructed. Additional clarification would help the reader understand if the DCP alternatives fully cover the maximum range of potential operations.	withdrawal for exports compared to the Existing Conditions/No Project even though the Delta Conveyance Project provides additional conveyance capacity. DWR further clarified text in Chapter 3 of the Final EIR related to integration of Delta Conveyance facilities and operations into the SWP. None of the revisions in Chapter 3 resulted in a new significant environmental impact or substantial increase in the severity of an environmental impact or required additional mitigation measures to which DWR was unwilling to commit. Modeling results indicate that in certain years under Alternative 5 in July–September, proposed north Delta diversion capacity is unused when no export capacity is available south of the Delta and when Lake Oroville is above 1.6 MAF in September. Modeling results indicate that this occurs in 12 years with very high allocations and very high carryover storage in SWP San Luis Reservoir. In these years, there is no need to release additional stored water through the north Delta diversions because the volume of supplies already present south of Delta is sufficient to meet a very high Table A allocation. There are also 22 years in the Existing Conditions model where Oroville is at least 100 taf over 1.6 MAF in September and there is at least 100 taf unused export capacity south of the Delta during July–September. This occurs when SWP San Luis Reservoir is at or above rule curve, meaning that the model has identified that there is sufficient storage in San Luis Reservoir to meet the allocation in a given year. Regarding the modeled operation mentioned in the comment to release up to 100 taf storage in wetter years for export through the north Delta diversions, Delta Conveyance Project operations are expected to allow more efficient salinity management in the Delta for SWP and CVP. This efficient operation sometimes results in increased storage in upstream reservoirs including Oroville. The 100 taf release from Oroville for exports in wetter years is meant to generally represent how such storage benefits because of the Delta Conveyance Project would be exported.

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		Other than this general operational rule , the CalSim 3 model for the Delta Conveyance Project does not include other assumptions or rules that constrain reservoir releases or north Delta diversions in the way described in this comment other than those required by existing regulatory requirements as described in Appendix 5A.
545-15	[ATT 1] B. Additional Analysis is Needed to Assess Potential Effects As mentioned previously, DCP modeling limits the use of the NDD [North Delta Diversion] to convey previously stored water and divert Delta excess to a greater extent than described in the DEIR. The lack of specificity and commitment to operate the DCP as modeled indicate the potential effects of maximum allowed NDD and SDD [South Delta Diversion] have not been analyzed. If this is the case, the environmental effects, and potential impacts to other water supplies, and associated environmental effects have not been evaluated.	Please see responses to comments 545-9 and 545-14 regarding the model representation of Delta Conveyance Project north Delta diversion operations. The section titled SWP and CVP Operational Assumptions and Modeling Guidelines in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, , and the table titled Delta Conveyance Project Preliminary Proposed Operational Criteria in Chapter 3, Description of the Proposed Project and Alternatives, provide details on how DWR would operate the project. DWR intends to operate the project to the criteria indicated in the table and the description in that chapter. The modeling accurately represents the diversion of excess flows based on the SWP water rights, existing regulatory requirements, the proposed Delta Conveyance Project operations criteria, and the south of Delta demands. The modeling results are used to accurately depict the potential environmental impacts of the proposed project and alternatives. Common Response 3, Alternatives Development and Description, provides additional information regarding the process DWR followed to develop the operational criteria and how that operational criteria would be implemented. Additionally, see response to comment 545-14 regarding export of stored water.
545-16	[ATT 1] Additionally, CalSim 3 is used for this modeling analysis. Although CalSim 3 simulates changes in Delta exports, Delta outflows, river flows, and CVP and SWP reservoir storage levels, it does not model changes in water supplies to Sacramento River Settlement Contractors, Feather River	Please see response to comment 545-57 regarding CalSim 3 and how it incorporates potential changes in water supplies to settlement contractors and non-project water right holders.

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	Settlement Contractors, wildlife refuges, CVP Exchange Contractors, or non-Project water right holders. Because all CVP and SWP Settlement Contractor supplies and all non-Project water user diversions are "Hard Coded", the model is forced to meet these deliveries unless it runs out of water. In CalSim 3, the model runs out of water when a reservoir reaches dead pool. Reservoirs are prevented from reaching dead pool in actual operations by reducing non-Project water use, water deliveries to settlement contractors, and relaxation of some regulatory requirements, rather than the reservoir being allowed to reach dead pool. Because CalSim 3 does not simulate these actions, effects on these water users must be determined by evaluating the model output. Because modeled release of stored water is constrained to a greater extent than described in the DEIR, there are potential environmental effects and impacts to water supplies that are not analyzed in the DEIR.	
545-17	[ATT 1] Introduction The Delta Conveyance Project (DCP) is a water diversion and conveyance facility that includes a proposed new diversion on the lower Sacramento River, near Hood, called the North Delta Diversion (NOD). The ability to export water through the NOD, in addition to existing South Delta Diversion (SOD) export facilities, would increase the State Water Project's (SWP) ability to export water to areas south of the Delta. This may also result in different system-wide operations, including different operations of north-of-Delta (NOD) reservoirs, and different Delta flow regimes. Modeling is used to assess what changes may occur if the NOD is constructed. This report contains a summary of MBK Engineers' (MBK) findings and opinions on	This comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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	the hydrologic modeling that the California Department of Water Resources (DWR) performed for the DCP draft environmental Impact report (DEIR). In conducting this analysis, MBK analyzed DWR's DEIR modeling and reviewed related sections of the DEIR, including the Project Description and analysis of impacts to water supply, surface water and water quality. Information presented throughout this report are model results from DWR modeling of the DCP and independent analyses (but no additional modeling) performed by MBK Engineers. Figures were prepared by MBK Engineers based on DWR model results. The resumes of the engineers from MBK who contributed to this report are attached.	
545-18	[ATT 1] Review of DWR Modeling This review focuses on DWR's water operations modeling for the DCP DEIR that used CalSim 3. CalSim 3 is a computer program jointly developed by DWR and the U.S. Bureau of Reclamation (Reclamation). CalSim 3 presents a comprehensive simulation of SWP and Central Valley Project (CVP) operations. CalSim 3 is generally accepted as a useful and appropriate tool for assessing planning-level operations and water delivery capability of the SWP and CVP. CalSim 3 simulates how much water will be diverted, how much water will serve as instream flows, and how much water will remain in reservoirs. DWR applied CalSim 3 to analyze how SWP and CVP operations would change as a result of implementation of the DCP. The coding and assumptions included in the CalSim 3 model drive the results. Data and assumptions, such as the amount of precipitation and runoff at a certain measuring station or the demand for water by specific water users, are input into the	The comment summarizes information from Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the section titled North Delta Diversion Operational Criteria. Common Response 9, Hydrologic Modeling and Approach, provides additional discussion regarding how the CalSim modeling was conducted, including how future conditions were considered in the modeling effort. As described in Chapter 3, Description of Proposed Project and Alternatives, and in the table titled Delta Conveyance Project Preliminary Proposed Operations Criteria, DWR will operate the project in accordance with existing regulatory requirements.

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	model. There are both discretionary and nondiscretionary operating criteria used to operate the CVP and the SWP in the CalSim 3 model. Nondiscretionary operating criteria assumed in CalSim 3 include regulatory requirements, such as State Water Resources Control Board (SWRCB) standards, requirements in Biological Opinions, flood control requirements, and other requirements. Operational logic coded into CalSim 3 is intended to simulate how OWR and Reclamation operate the CVP/SWP system under circumstances for which there are no regulatory or otherwise definitive rules, e.g., when to move water from storage in CVP and SWP reservoirs upstream of the Delta to CVP and SWP reservoirs downstream of the Delta. This simulation of the CVP and SWP operator decision process is a critical element of CalSim 3, and these discretionary operational criteria significantly influence model results. The CalSim 3 model is the foundational model for analysis of the DCP, including effects and impacts analyses. Results from CalSim 3 are used to examine how water supply and reservoir operations would be modified by the DCP for each project alternative. CalSim 3 results are also used by subsequent models to determine physical and biological effects including effects on water quality, water levels water temperature, Delta flows, and fish. Any assumptions, errors, or inconsistencies in the underlying CalSim 3 model will influence these subsequent analyses of environmental effects. CalSim 3 is most often used to compare two model runs: one that contains a proposed project alternative and one that does not. Differences in certain results, such as water deliveries, river flows, and reservoir storage levels, are analyzed to	

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	determine the effects of the project alternatives on system-wide operations. The Existing Conditions and the Preferred Alternative modeling are the focus of this review, but other model scenarios are also reviewed. The main focus is on the differences between these modeling scenarios. The DEIR modeling contains several constraints and assumptions that govern the operations of the NDD [North Delta Diversion] . This includes current regulatory constraints such as 2019 NMFS and USFWS BiOps and 2020 CDFW ITP for the Long-Term Operations for the SWP and D-1641 requirements. In addition, the DEIR modeling includes several new operational criteria that would govern the diversions at the proposed north Delta intakes such as the bypass flow criteria and sweeping velocity criteria. Apart from these operating criteria, there are several other discretionary operating criteria included in the modeling, which govern when NOD would be used to capture additional excess flows depending on SDD operations and salinity conditions in the Delta. NDD operations are modeled in CalSim 3.0 using several complex computations across hundreds of tines of code, to simulate the various discretionary and non-discretionary constraints.	
545-19	[ATT 1] A. North Delta Diversion Modeled use of the NDD [North Delta Diversion] is constrained and influenced by the DCP proposed pulse flow criteria, low level pumping criteria, bypass flow criteria and fish screen sweeping velocity criteria, as well as export limitations, existing Delta standards, and available water supply. The two Project constraints restricting modeled use of the NDD are the Sacramento River flow below the NDD, which must be maintained above specified bypass flow requirements; and the	The section titled SWP and CVP Operational Assumptions and Modeling Guidelines in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, and the table titled Delta Conveyance Project Preliminary Proposed Operational Criteria in Chapter 3, Description of the Proposed Project and Alternatives, provide details on how DWR would operate the project. DWR intends to operate the project to the criteria indicated in the table and the description in that chapter. The modeling accurately maximizes the diversion of excess flows based on the SWP water rights, existing regulatory requirements, the proposed Delta Conveyance Project operations criteria, and the south of Delta demands. Common Response 3, Alternatives Development and Description, provides

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	Sacramento River flow at the NOD, which must be sufficient to maintain fish screen sweeping velocities. Figure 1 [See ATT 1 Exhibit 1] contains probability of exceedance charts of simulated Sacramento River flows above and below the NDD, diversions at the NDD, and the modeled maximum allowable total diversions at the NDD. The plots are scaled so that lower flow conditions may be examined in greater detail. The green dashed curve in each figure shows the maximum allowable diversion as calculated in CalSim 3 and the red curve represents modeled diversions at the NOD facility; thus, the red curve must always be on or below the green dashed curve. Differences between the solid blue curve and the dotted blue curve show the modeled differences between Sacramento River flows above and below the NDD. Modeling performed for the DCP assumes constrained use of the NOD based on the criteria in SWRCB D-1641, SWP Incidental Take Permit (ITP), and conditions south of the Delta; therefore, modeled diversions are often less than those allowed by the NOD bypass criteria alone. Modeling of the Preferred Alternative (DCP Alternative 5) assumes use of the NOD would have a lower priority than the SWP South Delta Diversion (SOD); therefore, diversions through the NOD are often less than what would be allowed by the DCP bypass criteria. DWR modeling shows the NOD is used less than 40% of the time during June and July, less than 20% of the time in August, and less than 30% of the time in September. Although modeling demonstrates higher use of the NOD during times of excess flow, Figure 1 demonstrates there is often unused capacity that may be used to convey additional stored water.	additional information regarding the process DWR followed to develop the operational criteria and how those operational criteria would be implemented. The comment also summarizes information from Appendix 5A, Section B, in the section titled North Delta Diversion Operational Criteria. The comment references a figure provided as part of the comment submittal (see comment 545-20) with the caption: “Probability of exceedance charts of Sacramento River Flows above and below the North Delta Diversion (NDD), diversions at the NDD.” The figure provided in the comment does not specify a data source. Please also refer to responses to comments 545-9 and 545-14 regarding use of north Delta intakes.

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545-20	[ATT 1 Exhibit 1: Probability of exceedance charts of Sacramento River Flows above and below the North Delta Diversion (NDD), diversions at the NDD, and the modelled maximum allowable total diversions at the NDD.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
545-21	[ATT 1] B. CVP/SWP Exports With the modelled inclusion of the NDD, additional excess water is exported from the NDD, and a portion of water that would be diverted at the SDD shifts to NDD under DCP Alternative 5 (DCP Proposed Project) compared to Existing Conditions. Figure 2. illustrates the changes in modelled SDD, NDD, and total export under DCP Alternative 5 compared to the Existing Conditions. Annual total exports increase 588 TAF, with NDD exports of 746 TAF, and a reduction in SDD exports of 158 TAF.	The comment appears to interpret information related to CalSim 3 modeling outputs of the north Delta diversion based on a figure (see comment 545-22) with this caption: Changes in modeled south Delta diversion, north Delta diversion, and total export under Alternative 5 compared to Existing Conditions. This figure provided in the comment does not specify a data source; however, the north Delta diversion and south Delta diversion average annual export totals noted in the comment generally align with the export information provided in Chapter 6, Water Supply. The comment does not provide new information, raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the EIR, therefore no further response is required.
545-22	[ATT 1 Exhibit 2: Changes in modelled South Delta Diversion (SDD), North Delta Diversion (NDD), and total export under DCP Alternative 5 compared to Existing Conditions.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter
545-23	[ATT 1] Figure 3 [see ATT 1 Exhibit 3] contains a plot comparing the NDD [North Delta Diversion] to SWP SDD [South Delta Diversion]. Out of 1,128 months, there are 15 months (1%) where the NDD is at capacity and 618 months (55%) where NOD is not used. Figure 4 contains a chart showing average monthly unused combined NDD and SDD export capacity; average annual unused SWP (NDD plus SDD) export capacity is approximately 700 TAF.	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.

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545-24	[ATT 1 Exhibit 3: Usage of North Delta Diversion and South Delta Diversion.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
545-25	[ATT 1 Exhibit 4: Average monthly unused combined North Delta Diversion and South Delta Diversion export capacity.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
545-26	[ATT 1] Figure 5. [see ATT 1Exhibit 5] shows changes in the CVP's south Delta C.W. ''Bill'' Jones Pumping Plant exports under DCP operations, as derived from the DEIR modeling. Although the CVP is not participating in the DCP, DEIR modeling shows an annual average increase in Jones exports of about 42 TAF, with the largest increase in above normal and wet years and an increase in dry years. The change in CVP export is dependent on assumptions in the modeling regarding sharing of carriage water benefit, allocation of responsibility for meeting increases in flow needed to comply with D-1641, use of NDD [North Delta Diversion] by the SWP during winter and spring months, use of NDD by the SWP during summer months, and other discretionary operational decisions. The modeled carriage water savings are substantial, but the DEIR does not describe if there is a specific operating criterion of the project intended to provide benefits to CVP (and whether DWR intends to share the savings with the CVP) or if the results are just a result of modeling decisions that do not reflect how DWR will actually manage the SWP in light of these benefits. Figure 6 [see ATT 1, Exhibit 6] contains charts showing the change in combined NDD and SDD [South Delta Diversion] SWP exports, most of the changes in export occur during the January through June period when SWRCB and OMR requirements are controlling SDD.	This comment refers to a figure (Comment 545-27) that commenter derived from Draft EIR modeling related to modeled Delta exports; however, no specific source was provided in either comment. Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the section titled SWP and CVP Operational Assumptions and Modeling Guidelines, provides a discussion of the guidelines used to develop SWP and CVP assumptions. Modeling results reflect how the SWP would be operated under existing conditions, No Project 2040, and the action alternatives analyzed in the EIR. Please see response to comment 545-12 regarding sharing of carriage water savings.

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545-27	[ATT 1 Exhibit 5: Changes in modelled Delta C.W. 'Bill" Jones Pumping Plant exports]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenters letter.
545-28	[ATT 1 Exhibit 6: Changes in modelled combined North Delta Diversion and South Delta Diversion exports]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenters letter.
545-29	[ATT 1] Combined CVP and SWP South of Delta (SOD) exports are constrained from January through June due to Old and Middle River (OMR [Footnote 4: Appendix to May 2019 EIS Administrative Draft Analysis for the Re-initiation of Consultation on the long-term operations of the Central Valley Project (CVP) and State Water Project (SWP) (ROC on LTO), Appendix F - Attachment 1 Appendix Fl Revised Alternative 1 Sensitivity Analysis]) or other criteria contained in biological opinions for operation of the SWP and CVP. These regulatory requirements include water-management alternatives to limit net flow in Old and Middle River that are intended to minimize entrainment and salvage of fish at the SWP and CVP export facilities in the South Delta. The effect of these requirements is to limit exports from the SDD. [South Delta Diversion] Moving the SWP's SOD volume to NDD [North Delta Diversion] results in the ability to increase the CVP's SOD exports while still complying with standards and requirements, and therefore total CVP/SWP exports increase. Figure 7 contains charts showing the change in CVP export at Jones in the NDD priority sensitivity model scenario [Footnote 5: DWR CalSim 3 modeling scenario included with DCP modeling package labeled: "NDDPrioritization: 4_DCR19_12.30_120621_NDD_SWP6000_Beth_2020_shiftsens DJ1.zip: Existing Condition (2020) model with DCP 6000 cfs capacity for SWP (Bethany alternative), with increased	The information provided in Chapter 3, Description of the Proposed Project and Alternatives, regarding the operation of the Delta Conveyance Project intakes is an accurate description of the criteria under which the project will operate. As discussed in Common Response 3, Alternatives Development and Description, the purpose of the project is not to change the existing operational criteria of upstream reservoirs. The hydrologic modeling conducted for each alternative is an accurate depiction of how each alternative would operate and the resulting changes in hydrologic conditions including river flows, reservoir storage, and water deliveries. Those changes are summarized in Chapter 5, Surface Water, and provide information that was used to support the environmental assessment and allow an accurate comparison of impacts between alternatives. The north Delta diversions are maximized to the extent allowed by the proposed operational criteria, regulations, facilities, and demands. Even though the proposed operational criteria for the Delta Conveyance Project may allow additional diversions, other factors such as downstream demands, other Delta regulations, or facility limitations would limit the north Delta diversions to be less than maximum. Please see Common Response 9, Hydrologic Modeling and Approach, regarding the use of the best available tools. Please refer to responses to comments 545-9 and 545-14 regarding the model representation of Delta Conveyance Project north Delta diversion operations. Limits on Delta diversions into the forebay and constraints limiting flows through the Banks and Jones Pumping Plant are discussed in Appendix 5A, Modeling

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	prioritization of NDD operations from December- June] as compared to the DEIR's proposed project Alternative 5, which includes SDD priority. The NDD priority sensitivity model scenario shows increases in Jones exports in March and June of compared to Alternative 5. Much of this is because the NDD priority sensitivity model allows for increased use of the NDD even if the final model result for that month has higher CVP exports and no increase in SWP exports. This occurs in both Delta balanced and excess conditions. For example, the Delta is balanced in March 1925 in the Alternative 5 model scenario. In the NDD priority sensitivity model scenario, OMR flow criteria, which would otherwise limit exports, is avoided by shifting SWP through-Delta exports to the NDD, allowing the CVP to release additional water from Shasta for export at Jones Pumping Plant; this is not allowed in the Alternative 5, Proposed Project, model logic. However, there is nothing in the DEIR project description that would prevent a March 1925 operation as seen in the NDD priority sensitivity scenario. Also, in March 1927 of Alternative 5, the Delta is in excess condition. In both model scenarios (NDD priority and Alternative 5), SWP exports are limited by South of Delta demand (the SWP share of San Luis Reservoir is full). In the NDD priority sensitivity model scenario, the model makes the strategic choice for the SWP to meet its demand using the NDD (mostly) thereby allowing higher Jones pumping under the OMR flow criteria. The result is overall increased exports and a reduction in excess Delta outflow. Alternative 5 makes a different choice; the SWP relies on all its share of through-Delta export capacity under OMR flow criteria and exports the remainder through NDD. Under Alternative 5, Jones exports are thus constrained by the CVP export share under OMR. As	Technical Appendix, Section B, Hydrology and Systems Operations Modeling, Attachment 2, CalSim 3 Regulatory Assumptions and State Water Project/Central Valley Project Operations Criteria. As described in Appendix 5A and Common Response 9, the CalSim 3 model assumptions used to support the EIR impact analyses accurately represent the regulatory requirements and operational criteria that would govern operation of the project. The north Delta diversion priority sensitivity analysis is provided in Appendix 4B, North Delta Diversion Priority Sensitivity Analysis, for informational purposes only. The discussion in Appendix 4B includes more shifting than would be reasonably foreseeable, by prioritizing diversions at the proposed north Delta intakes over the existing south Delta intakes during certain times of the year. The analysis was performed to see how sensitive the system is to a specific change, not the specific magnitude. The north Delta diversion priority scenario described in Appendix 4B is not a foreseeable action (CEQA Guidelines § 15126.6(f)(3) [“An EIR need not consider an alternative … whose implementation is remote and speculative”]). Common Response 3, Alternatives Development and Description, further discusses the use of the north Delta diversions priority and limits. Alternative 5 is the proposed project and would be operated following the key existing and newly proposed criteria described in Chapter 3, Description of the Proposed Project and Alternatives. As explained there, DWR would continue to prioritize diversions from the south Delta facilities. Please note that the results presented in Appendix 4B indicate that differences between the project and a north Delta diversion priority scenario, if any, would be very limited. Finally, as described in Common Response 3, the proposed intakes would only be permitted to operate with regulatory protections of existing standards and as prescribed by the federal and state environmental permitting processes.

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	compared to the NDD priority sensitivity, this results in lower overall exports and greater Delta excess. Again, there is nothing in the project description that would prevent a March 1927 operation as seen in the NDD priority sensitivity study. In these above cases, the Alternative 5 model constraints do not reflect the likely reality allowed in the project description.	
545-30	[ATT 1] Although modelling shows Jones export increases during the March through June period, model parameters are set so this increase in CVP export is not fully allocated or delivered to CVP water users south of the Delta, and this results in corresponding decreases during the July through February period shown in Figure 7. [See ATT 1, Exhibit 7] When increases in CVP export during March through June are not allocated, it causes CVP storage south of Delta in San Luis Reservoir to remain higher and this causes changes in upstream CVP storages by decreasing need for stored water to meet SOD demands and may alter the assessment of environmental effects and impacts to water users.	This comment refers to the north Delta diversion priority sensitivity analysis, in comparison to the proposed project (Alternative 5) analyzed in the EIR. Please note that Appendix 4B, North Delta Diversion Priority Sensitivity Analysis, is provided for informational purposes only. Please refer to response to comment 545-29 regarding this appendix. Nevertheless, while there are minor differences in export patterns between the north Delta diversion priority sensitivity scenario and Delta Conveyance Project Alternative 5, comparison of the two scenarios shows no appreciable difference in CVP north of Delta reservoir storage (see the Appendix 4B table titled Average End-of-May and End-of-September Storages for Shasta Lake, Lake Oroville, Trinity Lake, and Folsom Lake (thousand acre-feet) Under Existing Conditions, Alternative 5, and Alternative 5 North Delta Diversion Priority Scenarios). Although a minor refinement of the CVP SOD allocations in this model could be achieved to use the additional storage in CVP San Luis Reservoir that is noted in the comment (which occurs only in the 15% wettest years), this would only use up additional storage in CVP San Luis Reservoir and would not have any effect on upstream storage or the Delta. Hence the assessment of the effects of the north Delta diversion priority scenario on upstream reservoir operations shown in Appendix 4B would not change.
545-31	[ATT 1 Exhibit 7: Change in the CVP export at Jones in the north Delta Diversion priority sensitivity model scenario as compared to the DEIR's proposed project Alternative 5]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter, including comment 545-30.
545-32	[ATT 1] As shown in Figure 8, OWR modelling of OCP Alternative 5 would increase CVP export at the SWP Banks Pumping Plant	The information provided in Chapter 3, Description of the Proposed Project and Alternatives, regarding the operation of the Delta Conveyance Project intakes is an accurate description of the criteria under which the project

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	when compared to Existing Conditions modelling, where the CVP and SWP share a Joint Point of Diversion (JPOO) that is operated according to a coordinated operation agreement (COA), by an average of 8 TAF over the Existing Conditions, and the increase in DCP Alternative 5 with NDD priority is 43 TAF. It is possible that JPOD would be used more frequently to help boost CVP SOD water service contractor deliveries, when as a result of SWP diversions being shifted to the NDD, additional pumping capacity is available at JPOD. However, DCP Alternative 5 modelling limits JPOO to remaining Banks SOD permitted capacity (under the permit issued by the Corps under Section 10 of the Rivers and Harbors Act) regardless of whether the water is modelled as being conveyed through the SDD or the NOD. In other words, DCP modelling assumes that available pumping capacity at the JPOD created through DCP operations would remain unused. This is despite the fact that DWR has agreed to increase use of JPOO under Article lO(b) of the 2018 Coordinated Operation Agreement Addendum. The addendum includes a statement that the State will transport up to 195,000 acre-feet of CVP water through the California Aqueduct. Use of the NDD by the SWP during June through October may increase opportunity for the CVP to convey additional water through the California Aqueduct, and the effects of this operation should be analysed. Due to available capacity and the COA Addendum, it is reasonably foreseeable that CVP use of Banks, through JPOD, may be increased if the SWP increases NDD and reduces SOD. Comparing JPOD in the modelling of Alternative 5, with NDD priority to SDD priority, demonstrates this effect. It is expected that JPOD would increase if priority use of the NDD in Alternative S included the July through September period. Even though reasonably foreseeable combined CVP/SWP exports may be greater than	will operate. As discussed in Common Response 3, Alternatives Development and Description, the purpose of the project is not to change the existing operational criteria of upstream reservoirs. The hydrologic modeling conducted for each alternative is an accurate depiction of how each alternative would operate and the resulting changes in hydrologic conditions including river flows, reservoir storage, and water deliveries. Those changes are summarized in Chapter 5, Surface Water, and provides information that was used to support the environmental assessment and allow an accurate comparison of impacts between alternatives. The modeling assumptions for JPOD are reasonable for the purposes of comparing the proposed project and alternatives to existing conditions as required by CEQA. This is because no changes to existing JPOD are proposed, south Delta diversions are prioritized, north Delta diversions would primarily be used during excess flow conditions, and changes in storage releases in this manner are not proposed. The referenced north Delta diversion sensitivity analysis is provided only for comparison purposes and indicates generally that changes in surface water and water supply conditions compared to those of the proposed project would be minor. Please see response to comment 545-29. Article 10(b) of the 2018 COA Addendum referenced by the commenter is only applicable if the permitted maximum diversions at Clifton Court intakes is increased from existing limits. This provision is not relevant if the Delta Conveyance Project is added to the SWP and, therefore, does not conflict with DWR's commitment in 2018 COA Amendment.

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	shown in model results, DEIR modelling limits on maximum possible exports tend to depict modelled storage in NDD CVP reservoirs higher under DCP Alternative 5 than under the Existing Conditions. The DCP Project description does not include the model's limits on combined CVP/SWP exports (which themselves could conflict with DWR commitments in the COA Addendum), and the DEIR does not evaluate or disclose the potential effects on NDD CVP reservoir storage, including likely lower reservoir levels (and hence reduced water supplies) of these reasonably foreseeable joint project operations.	
545-33	[ATT 1 Exhibit 8: Change in CVP export at SWP Banks Pumping Plant]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter, including comment 545-32.
545-34	[ATT 1] Changes in Delta Outflow and Flow Requirements Figure 9 illustrates a comparison of Delta outflows under the DCP CalSim 3 modeling of DCP Alternative 5 and the Existing Conditions. Decreases in Delta outflow would be the result of the CVP and SWP ability to increase Delta exports in DCP Alternative 5 relative to the Existing Conditions. The magnitude of decrease in Delta outflows is very similar to the magnitude of increase in Delta exports.	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
545-35	[ATT 1 Exhibit 9: Change in Delta Outflow under CalSim 3 modelling of DCP Alternative sand Existing Conditions]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
545-36	[ATT 1:] Figure 10 [see ATT 1 Exhibit 10] illustrates the change (DCP Alternative 5 minus Existing Conditions) in the location of the X2 [Footnote 6: X2 is the location of the 2 parts per thousand	This comment summarizes modeling results for X2 in Appendix 5B, Surface Water 2040 Analysis, which indicates salinity increases in the Delta in some months. Chapter 9, Water Quality, directly addressed impacts of project operations to salinity parameters bromide (Impact WQ-3), chloride (Impact

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	salinity contour (isohaline), one meter off the bottom of the estuary, as measured in kilometers upstream from the Golden Gate Bridge. In the 1995 Bay-Delta Plan, an electrical conductivity vlaue of 2.64 mmhos/cm is used to represent the X2 location.] isohaline line in the Delta compared to the location of X2 in the Existing Condition model scenario for each month in the CalSim 3 simulation period. X2 position is measured as the distance from the Golden Gate Bridge. The closest distance on the X-Axis in Figure 10 is 45 km, and distance increases as you read from left to right in the figure, to a maximum of 95 km. The modeling results show the migration of X2 inland in almost every month; this eastward movement of X2 demonstrates increases in Delta salinity. The eastward movement of X2 is discussed in the DEIR in Appendix SB on page 5B-3 on lines 20 to 35 and modeling output is presented in the DEIR in Appendix SA, Section Bon pages B-376 to 8-382. There is eastward movement of X2 during February through June when SWRCB D-1641 specifies an X2 requirement, as indicated by points in red in Figure 10. Satisfying the SWRCB D-1641 X2 requirement is a shared obligation between the SWP and CVP. The months of July through January are indicated by black circles in Figure 10; eastward movement of X2 during this period demonstrates increased salinity in the Delta.	WQ-4), and electrical conductivity (Impact WQ-5) in the Delta. While there could be some increases in salinity-related parameters in some months with the project, all impacts were determined to be less-than-significant. DWR will continue to operate the project in compliance with all applicable regulatory requirements. Chapter 12, Fish and Aquatic Resources, also addressed impacts of changes in X2. Please also see response to comment 545-12.
545-37	[ATT 1:] With increases in total water diversions from the Delta, and corresponding decreases in Delta outflow, Delta salinity increases may result in greater Delta outflow required to meet salinity requirements. CalSim 3 modeling results show that Minimum Required Delta Outflow (MRDO) needed to meet D-1641 standards increases an average of 40 TAF per year in DCP	Please see response to comment 545-12 regarding Minimum Required Delta Outflow (MRDO) and frequency of Term 91 triggers.

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	Alternative 5, when compared to Existing Conditions (Figure 11) [See ATT 1 Exhibit 11]. Increased MRDO is a shared obligation of the SWP and CVP under COA [Coordinated Operation Agreement] [Footnote 7: Addendum To The Agreement Between The United States Of America And The Department Of Water Resources Of The State Of California For Coordinated Operation Of The Central Valley Project And The State Water Project, December 12, 2018, Article 6(c).] and can be a risk to water users of both the SWP and CVP. Additionally, the increased MRDO may lead to increased instances of Term 91; as described in Section F, increased instances of Term 91 will result in reduced water supplies for certain Delta water users.	
545-38	[ATT 1:] The DEIR needs greater description to fully understand both environmental and water user impacts, the potential use of stored water from upstream reservoirs to repel the salinity field, and the potential impacts to CVP water supplies and uses that depend on those supplies (e.g., agriculture, waterfowl, urban water users, etc.).	The Delta Conveyance Project would not change upstream reservoir operations or Delta water quality requirements, including those for salinity. Please refer to Chapter 9, Water Quality, for discussion of electrical conductivity impacts of the proposed project and alternatives which were all found to result in less than significant impacts. Please see Chapter 3, Description of the Proposed Project and Alternatives, for clarifications added to the proposed operations criteria. None of those clarifications resulted in a new significant environmental impact or substantial increase in the severity of an environmental impact or required additional mitigation measures to which DWR was unwilling to commit. Please see Common Response 3, Alternatives Development and Description, for additional clarifications regarding upstream operations and storage.
545-39	[ATT 1 Exhibit 10: Change in the X2 Position (DCP Alternative 5 minus Existing Conditions) versus X2 Position in Existing Condition]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
545-40	[ATT 1 Exhibit 11: Change in Minimum Required Delta Outflow – DCP Alternative 5 minus Existing Conditions]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.

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545-41	[ATT 1:] The use of the NDD can also reduce the water needed for Delta Outflow to maintain Delta salinity standards for a given rate of Delta exports, commonly referred to as carriage water. DCP modeling shows a reduction in carriage water and shared water savings between both the SWP and CVP of approximately 37 TAF (Figure 12). [See ATT 1 Exhibit 12] The DEIR states in Appendix OSA, Section B, Page B-63 that "carriage water benefits of these operations are split between the SWP and CVP according to COA, with priority placed on exporting this water. Any carriage water savings that cannot be exported are backed up into north of Delta storage." The DEIR does not describe if this is an incidental benefit that is shared with the CVP or if it indicates a specific operating criterion of the project intended to provide benefits to the CVP.	Please see response to comment 545-12 regarding carriage water savings and the Coordinated Operating Agreement.
545-42	[ATT 1:] Although carriage water requirements may be reduced, Delta salinity may still be increased as shown by the eastward movement of X2. DCP modeling shows a reduction in carriage water costs and shares this water savings between both the SWP and CVP. The modeling shows a carriage water savings and an increase in the water cost of meeting X2 and salinity requirements that are shared with the CVP. The DEIR does not fully evaluate the additional water costs (effects on CVP water supply) associated with increases in X2, salinity requirements, and the carriage water savings explicitly, and in a detailed manner, including the frequency and conditions when each effect could occur.	The EIR includes sufficient modeling and analysis to fully disclose any potential effects to the CVP under the proposed Delta Conveyance Project operations (see section titled North Delta Diversion Operational Criteria, section titled CalSim 3 Model Components, and section titled Integration with South Delta Facilities in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling). The modeling accounted for changes in X2 and the Delta salinity requirements. Chapter 5, Surface Water, provides the results of the hydrologic modeling conducted for each of the project alternatives. As noted in Chapter 5 and Chapter 6, Water Supply, project operations would not affect upstream hydrologic conditions, reservoir storage, and CVP water user deliveries. Common Response 9, Hydrologic Modeling and Approach, provides additional discussion regarding how model simulations of proposed project operations realistically represent how the system would be operated and allow appropriate analysis of potential upstream effects. Please also refer to Common Response 3, Alternatives Development and Description,

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		regarding how the analyses contained in the EIR demonstrate limited or no effect on upstream storage.
545-43	[ATT 1:] Carriage water savings are computed based on salinity requirements at the D-1641 stations of Jersey Point, Emmaton, and Rock Slough. The DEIR does not describe how the project would shift diversions from SDD to NDD in real time operations. The DEIR does not describe how this shift would affect water quality throughout the Delta. As per the salt balance calculations, an increased diversion of Sacramento water from the Delta (which is better in quality than San Joaquin water) could degrade the water quality in the Delta with prolonged use of NDD facilities and result in increases in MRDO [Minimum Required Delta Outflow] during some periods.	Language has been added to Chapter 3, Description of the Proposed Project and Alternatives, that clarifies the integration of the north Delta intakes with the south Delta facilities as it pertains to D-1641 salinity requirements resulting in a more efficient system where less water would be needed to meet the same water quality standards and carriage water savings. Please see Common Response 3, Alternatives Development and Description, for further discussion of seasonal summer and fall shifting and carriage water. The proposed Delta Conveyance Project operations prioritize State Water Project (SWP) exports from the existing south Delta diversion over exports from the proposed new north Delta intakes. As described in Chapter 3, the shifting from south to north in summer and fall during which the State Water Project is typically operating to meet the State Water Board D-1641 salinity requirements in the Delta, would occur in limited circumstances and not for prolonged periods of time as suggested by the comment. This diversion shifting is represented in CALSIM 3 modeling and thus is reflected in the water quality impact analysis disclosed in Chapter 9.
545-44	[ATT 1 Exhibit 12: Change in Carriage Water Requirement - DCP Alternative 5 minus Existing Conditions]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
545-45	[ATT 1:] Modeling Limits on Use of Stored Water Release and conveyance of SWP stored water from Oroville is constrained in the modelling of the Preferred Alternative by criteria that are inconsistent with the Existing Conditions modelling. These criteria are not described in the DEIR project description or made a part of the proposed DCP project, and thus the modelling does not accurately depict the potential	The CalSim 3 modeling results are an accurate depiction of Delta Conveyance Project operations, operational criteria, and integration into the SWP. Please refer to Common Response 3, Alternatives Development and Description, for discussion of comments received on Delta Conveyance Project operations including use of stored water and maximum use of intake capacity. Despite the comment's suggestion that the model erred in its representation of Delta Conveyance Project operations, results reflect how the Delta Conveyance Project would be operated. It is unclear in this comment which Delta Conveyance Project criteria may be inconsistent with existing conditions criteria and additional response is not possible. Please

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	project operations and effects. Although there is additional release and conveyance of previously stored water from Oroville in modelling of the Preferred Alternative, the model limits the volume of water that is released and conveyed to a greater extent than what is described in the DEIR.	also see response to comment 545-14 regarding modeling assumptions and how they accurately represent operational criteria.
545-46	[ATT 1:] There are no Project operating criteria that prevent export of stored water through NDD, and the effects of conveying additional stored water, for which there is diversion and conveyance capacity in the DCP, are not evaluated in the DEIR. Increases in release of stored water from Oroville may result in lower reservoir storage in dry and critical years, and in increased risk to the water supplies of the Feather River Settlement Contractors. Additionally, lower storage in Oroville can be a risk to CVP storage in Shasta and Folsom Reservoirs if Oroville storage is not adequate to meet the shared obligations of both projects.	Please refer to response to comment 545-2 regarding releases and conveyance of Oroville water, and language added to Chapter 3, Description of the Proposed Project and Alternatives, clarifying that while the project may offer increased conveyance capacity, upstream storage operations will continue to be managed consistent with the current and future regulatory requirements and contractual obligations and storage withdrawal for exports would not increase. Please also see response to comment 545-14 regarding modeling assumptions and how they accurately represent how the project will be operated.
545-47	[ATT 1:] The addition of the NDD would create more opportunities for the SWP, and possibly the CVP, to convey water to users in the Delta export service area. Although the DEIR shows that modeled total exports increase by an annual average of 588 TAF in the DCP Alternative 5 relative to the Existing Conditions, the DEIR does not disclose that there is still significant unused modeled export capacity in DCP Alternative 5. Figure 13 [see ATT1 Exhibit 13]contains a chart showing annual unused June through September SWP Delta export capacity from DCP Alternative 5. The average July through September unused capacity over the full 94-year period of simulation is approximately 440 TAF. During the summer, the Delta is mostly	The comment provides an interpretation of a figure with the caption Figure 13. Available NDD and SDD SWP Export Capacity June through September) – DCP (Comment 545-49) but provides no source for how this figure was developed. Chapter 3, Description of Proposed Project and Alternatives, in the table titled Delta Conveyance Project Preliminary Proposed Operations Criteria provides criteria under which the project would operate. Additional background on the project's operational criteria is provided in Common Response 3, Alternatives Development and Description. Please see responses to comments 545-9 and 545-14 regarding the model representation of Delta Conveyance Project north Delta diversion operations.

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	in balance, and any increase in exports would require additional releases from upstream reservoirs, such as Oroville. During dry and critical years when storage is low, additional releases from storage for export are unlikely. However, in wet and above normal years (and maybe in some below normal years) when carryover storage is expected to be above what would be needed to satisfy all upstream requirements, additional stored water could be released to increase South of Delta water supplies. However, the DCP Alternative 5 modeling does not show such increases. If these increases were to occur, carryover storage would be lower than modeled.	
545-48	[ATT 1:] Figure 14 [See ATT 1 Exhibit 14] shows a measure of the ability to increase SOD SWP water supply in DCP Alternative 5, derived from the DEIR modeling. MBK calculated this by processing CalSim 3 model results provided by DWR. For the purpose of this illustration, the ability to increase SOD SWP water supply is reasonably assumed to be the minimum of Oroville carryover storage above 1.6 MAF (Figure 15) [See ATT 1 Exhibit 15], and available June through September export capacity. Although the average annual amount of Oroville storage above 1.6 MAF that may be conveyed is 170 TAF, the actual increase in stored water that may be conveyed can only be quantified by additional modeling. This is because if water is conveyed in a wetter year and Oroville does not refill the following winter, there may not be as much stored water left to convey in subsequent years. The DEIR does not disclose that the DCP modeling was intentionally constrained to limit (i.e., underutilize) available summer export capacity, or that such underutilization is just a modeling decision. This modeled operation is not required by any existing regulations or by any	The CalSim 3 modeling results are an accurate depiction of Delta Conveyance Project operations, operational criteria, and integration into the SWP. Please refer to Common Response 3, Alternatives Development and Description, for discussion of comments received on Delta Conveyance Project operations including use of stored water and - maximum used of intake capacity. Despite the comment's suggestion that the model erred in its representation of Delta Conveyance Project operations, results reflect how Delta Conveyance Project would be operated. Therefore, the suggestion that south of Delta water supply would increase as described is not accurate or supported by the Delta Conveyance Project modeling results.

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	proposed operating criteria in the DEIR.	
545-49	[ATT 1 Exhibit 13: Available SWP Export Capacity (June through September) - DCP Alternative 5]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter.
545-50	[ATT 1 Exhibit 14: Minimum of Available Export Capacity and Available Oroville Storage above 1.6 MAF Carryover]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter, including comment 545-48.
545-51	[ATT 1 Exhibit 15: Oroville Carryover (End of September) Storage in DCP Alternative 5]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter, including comment 545-48.
545-52	[ATT 1:] Release of water stored in Oroville for Delta export purposes is limited based on Oroville carryover (end of September storage). The Oroville operational carryover target is 1.6 MAF, as documented in: •"Technical Addendum to The State Water Project Final Delivery Capability Report 2019", August 26, 2020 (technical-addendum-to-the-swp-final-delivery-capabitity-report-2019.pdf), page 4 •"Addendum to the State Water Project and Central Valley Project Drought Contingency Plan", May 31, 2022 (May DP Update 53122Final.pdf), page 10. The CalSim 3 Existing Conditions modeling scenario operates to an Oroville carryover target guideline of 1.6 MAF. Releases for Delta exports are made, up to maximum export capacity, when Oroville carryover is greater than 1.6 MAF. Delta exports are less than export capacity when carryover is less than 1.6 MAF. Figure 16 [see ATT 1 Exhibit 16] contains a chart of available	The assertion that the EIR modeling assumes unrealistic upstream reservoir operations is inaccurate and unsupported. The EIR's CalSim 3 model does use the same 1.6 MAF End-of-September Oroville storage target as both the 2019 State Water Project Delivery Capability report and the most recent 2021 edition. DWR would still aim at meeting those targets, with or without the addition of the north Delta diversions as part of the Delta Conveyance Project. While the 1.6 MAF end-of-September target in Oroville is an operational rule that DWR uses in project operations, it is not a strict operational requirement that has to be met exactly to the exclusion of other operational goals, as implied in the comment. This is true in project operations and also in the CalSim 3 model. We were unable to recreate Figure 16 from the exhibit, which the comment states shows that in the Existing Condition, there is no unused export capacity in CalSim 3 in June–September when Oroville carryover is greater than 1.6 MAF. Our analysis of CalSim 3 results shows that there are 22 years in the Existing Conditions model where Oroville is at least 100 taf over 1.6 MAF in September and there is at least 100 taf unused export capacity south of Delta during July–September. This occurs when SWP San Luis Reservoir is at or above rule curve, meaning that the model has identified that there is sufficient

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	June through September SWP export capacity versus Oroville carryover for the Existing Conditions, derived from the DEIR modeling. The calculation of unused SWP export capacity takes into account all applicable SWRCB Delta standards, biological opinions, and incidental take permit restrictions and assumes there is no additional capacity when the Delta is in excess conditions, as defined in COA [Coordinated Operation Agreement] [Footnote 8: Under COA, "Excess water conditions" are periods when it is agreed that releases from upstream reservoirs plus unregulated flow exceed Sacramento Valley inbasin uses, plus exports (COA, p. 2.)]. There is no unused export capacity when Oroville carryover is greater than 1.6 MAF, and unused export capacity increases with lower Oroville carryover. The CalSim 3 Existing Conditions model simulation demonstrates adherence to an Oroville carryover guideline of 1.6 MAF for conveyance of previously stored water. Figure 17 [See ATT 1 Exhibit 17] contains a chart of unused June through September SWP export capacity versus Oroville carryover for DCP Alternative 5. This chart is developed in the same manner as the one in Figure 16. However, CalSim 3 modeling of DCP Alternative 5 used in the DEIR does not follow the Oroville carryover guideline of 1.6 MAF for conveyance of previously stored water. Release of SWP stored water for Delta export could be higher than modeled if following existing Oroville operational guidelines for 1.6 MAF carryover. The years in the shaded green area in Figure 17 indicate years when Oroville carryover is above 1.6 MAF and there is SWP capacity to convey additional stored water. There are no operating criteria that prevent moving this stored water, and the model is constrained to a greater extent than described in	storage in San Luis Reservoir to meet the allocation in a given year. The CalSim 3 modeling results are an accurate depiction of Delta Conveyance Project operations, operational criteria and integration into the SWP. Please refer to Common Response 3, Alternatives Development and Description, for discussion of comments received on Delta Conveyance Project operations including use of stored water and "maximum" use of intake capacity.

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	the DEIR [Footnote 9: Operating Criteria are descried in the DEIR in Chapter 3 on pages 3-149 through 3-159]. The DEIR does not disclose or analyze the potential to move the additional stored water with the DCP in place and any associated impacts of the DCP.	
545-53	[ATT 1 Exhibit 16: Available SWP Export Capacity and Oroville Carryover - Existing Conditions]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter, including comment 545-52.
545-54	[ATT 1 Exhibit 17: Available SWP Export Capacity and Oroville Carryover - DCP Alternative 5]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter, including comment 545-52.
545-55	[ATT 1] The DEIR modeling shows that release of stored water from Oroville is diverted at the NDD in DCP Alternative 5. Figure 18 [see ATT 1 Exhibit 18] contains a chart showing SWP diversion at the NDD and corresponding release of previously stored water from Oroville. Release of stored water from Oroville is determined by storage withdrawal in the COA [Coordinated Operation Agreement]. Although release of SWP stored water and diversion at the NDD can be seen in the modeling, Oroville release of stored water for NDD could be larger than shown in modeling if existing Oroville operational guidelines are followed or the modeling did not constrain the operation more than described in the DEIR. Use of the NDD in combination with SDD increases total SWP export of stored water in DCP Alternative 5 compared to Existing Conditions, but constraints in the modeling still limit the release and export of stored water. The result is a potential underestimate of project exports, environmental effects, and risks to legal users of water.	The CalSim 3 model results are an accurate depiction of the Delta Conveyance Project operations approach, criteria and integration into the SWP as described in Chapter 3, Description of the Proposed Project and Alternatives. For hydrology dependent resource impact analyses, such as water quality and fish and aquatic resources, for example, the impact analyses accurately reflect the operations approach and model representation of those Delta Conveyance Project operations. Please refer to response to comment 545-14 and Common Response 3, Alternatives Development and Description, for a discussion about comments received regarding "maximum" intake operations.

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545-56	[ATT 1 Exhibit 18: DCP Alternative 5 and SWP Release of Previously Stored Water from Oroville.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in the responses to the commenter's letter, including comment 545-55.
545-57	[ATT 1] CalSim 3 Does Not Address Effects on Many Types of Water Users CalSim 3 is used for the DEIR modeling analysis; although CalSim 3 simulates changes in Delta exports, Delta outflows, river flows, and CVP and SWP reservoir storage levels, it rarely simulates any changes in water deliveries to Sacramento River Settlement Contractors, Feather River Settlement Contractors, wildlife refuges, CVP Exchange Contractors, or non-Project water right holders. Because all CVP and SWP Settlement Contractor deliveries and all non-Project water user deliveries are "Hard Coded", the model is forced to meet these deliveries unless it runs out of water. CalSim 3 runs out of water when a reservoir reaches dead pool. In actual operations, reservoirs are prevented from reaching dead pool by reducing non-Project water use, water deliveries to settlement contractors, and relaxation of some regulatory standards, rather than the reservoir being allowed to reach dead pool. Because CalSim 3 does not simulate these actions, effects on these water users must be determined by evaluating the model output. DWR's Modeled release of stored water is constrained to a greater extent than described in the DEIR; thus, there are potential environmental effects and impacts to water supplies that are not analyzed in the DEIR.	The commenter is incorrect in stating that CalSim 3 does not simulate changes in water deliveries to Settlement Contractors, wildlife refuges, CVP Exchange Contractors, or non-project water right holders. Because the water deliveries to these types of water users have the highest priority of deliveries based on their contract or water right and because the model tries to deliver water to these higher priority users, this priority is maintained and hence no change is modeled. SWP and CVP water demands are inputs to CalSim 3 typically based on the contract maximums and/or land use. Project deliveries are the simulated outputs based on land use and/or the project demands that can be made by SWP/CVP within the physical, regulatory, and contractual constraints as input to the system. As described in Common Response 9, Hydrologic Modeling and Approach, CalSim 3 is the best available tool but has a number of limitations described in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the section titled Model Limitations. Appendix 5A, Section B, in the section titled Delta Salinity Compliance, acknowledges that CalSim 3 results do not represent emergency actions that may be implemented during stressed water supply conditions (e.g., drought). The stressed water supply conditions with or without Delta Conveyance Project are expected to be resolved similarly, which may require actions that are outside the typical operating rules modeled in CalSim 3. As shown in the modeling results (Appendix 5A, Section B, Attachment 3, CalSim 3 Model Results for Existing Condition and Alternatives at 2020), the stressed water supply conditions do not increase (e.g., frequency of time where upstream reservoirs at dead pool) with Delta Conveyance Project compared to the without Delta Conveyance Project scenario. Chapter 5, Surface Water, provides the results of the hydrologic modeling

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		conducted for each of the project alternatives. As noted in Chapter 5 and Chapter 6, Water Supply, project operations would not affect upstream hydrologic conditions, reservoir storage, and SWP and CVP water user deliveries. Common Response 9, Hydrologic Modeling and Approach, provides additional discussion regarding how model simulations of proposed project operations realistically represent how the system would be operated and allow appropriate analysis of potential upstream effects. Please also refer to Common Response 3, Alternatives Development and Description, regarding how the analyses contained in the EIR demonstrate limited or no effect on upstream storage.
545-58	[ATT 1:] [Section] F. Term 91 There are appropriative water rights on streams tributary to the Sacramento - San Joaquin Delta or the Delta, 'which include Term 91 and are subject to curtailment of diversions. The SWRCB evaluates hydrologic conditions and CVP and SWP operations to determine whether specific criteria are met. The criteria are the Delta is in balance conditions, as defined in the COA [Coordinated Operation Agreement] [Footnote 10: Under COA, "balanced water conditions" are periods when it is agreed that releases from upstream reservoirs plus unregulated flow approximately equal the water supply needed to meet Sacramento Valley inbasin uses, plus exports."(COA, p. 4.).], and Supplemental Project water is being released to satisfy in basin entitlements. If the criteria are determined to be met, then water rights that include Term 91 are not authorized to divert. Dgenerally, Term 91 is included in all appropriative water right permits within the Sacramento River watershed that were issued in 1965 or later. According to SWRCB Decision 1594, appropriative water rights for diversions of less than 1.0	DWR currently operates the SWP pursuant to State Water Resources Control Board Water Right Decision 1641 (D-1641), among other requirements. Please see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, for information on the SWRCB authorities and planning efforts, including designated beneficial uses, water rights, and flow criteria for the Sacramento–San Joaquin Delta Ecosystem. Please see response to comment 545-12 regarding the description of the project, operations under COA and Term 91.

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	cfs or less than 100 acre-feet per year are not subject to Term 91. Changes in CVP and SWP operations with the DCP may alter the frequency that Term 91 curtailments are imposed. The DCP DEIR document/analysis does not address Term 91, and because there could be a change/increase in frequency of Term 91 imposition on existing water rights, changes in Term 91 curtailments should be evaluated.	
549-1	Byron-Bethany Irrigation District (BBID) submits this comment letter on the Draft Environmental Impact Report (DEIR) for the Delta Conveyance Project (Project) dated July 2022, prepared by California Department of Water Resources (DWR), the Project's Lead Agency. BBID is an irrigation district located within the Sacramento-San Joaquin Delta Watershed (Delta), providing water service to approximately 36,000 acres in Alameda, Contra Costa, and San Joaquin Counties. BBID's water service customers include over 200 agricultural customers and more than 20,000 residents comprising the Mountain House Community Services District (MHCSD).	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
549-2	Because BBID's [Byron-Bethany Irrigation District's] point of diversion is located inside the radial gate for the Clifton Court Forebay, the Project terminus, the Project will impact both BBID's facilities and its constituents.	As discussed in responses to comments 549-5, 549-6, and 549-7, DWR is committed to working with utility operators such as BBID, and the DCA considered BBID's facilities and designed the project to avoid the potential for physical impacts. Please refer to Appendix 5A, Section B, in the Water Demands and Water Use section, which describes how CalSim 3 incorporates input related to agricultural water demands and water use, managed wetlands water demands, urban water demands, and water contracts. These were all considered in the analysis of water supply in the EIR.
549-3	The DEIR outlines five Project Alternatives, some of which have subsets based upon diversion capacity (in cubic feet per second (cfs)) and location of the intake(s), resulting in effectively nine	Please refer to Appendix 3A, Identification of Water Conveyance Alternatives, and Common Response 3, Alternatives Development and Description, regarding the alternatives development process and the range

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	different Project Alternatives:1 [Footnote 1: Importantly, however, each Project Alternative uses varying combinations of the same facilities among them.] Alternative 1 - Central Alignment (6,000 cfs, Intakes B and C); Alternative 2a - Central Alignment (7,500 cfs, Intakes A, B, and C); Alternative 2b - Central Alignment (3,000 cfs, Intake C); Alternative 2c - Central Alignment (4,500 cfs, Intakes B and C); Alternative 3 - Eastern Alignment (6,000 cfs, Intakes B and C); Alternative 4a - Eastern Alignment (7,500 cfs, Intakes A, B, and C); Alternative 4b – Eastern Alignment (3,000 cfs, Intake C); Alternative 4c - Eastern Alignment (4,500 cfs, Intakes B and C); and Alternative 5 - Bethany Reservoir Alignment (6,000 cfs, Intakes B and C). Alternative 5 - Bethany Reservoir Alignment is the Proposed Project such that BBID refers to it hereinafter as "Alternative 5/Proposed Project."	and scope of alternatives considered. This comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
549-4	Each Project Alternative outlined in the DEIR includes the construction and operation of certain facilities within BBID's [Byron-Bethany Irrigation District] boundaries. Specifically, those include the following: - Southern Forebay Outlet Structure (Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, 4c) - Jones Tunnel (Alternatives 2a, 4a) - South Delta Outlet and Control Structure and Dual Reception Shafts (Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, 4c) - Bethany Pumping Plant and Surge Basin (Alternative 5/Proposed Project) - Bethany Reservoir Aqueduct (Alternative 5/Proposed Project)	Please see response to comment 549-3 regarding water conveyance alternatives.
549-5	BBID [Byron-Bethany Irrigation District] identifies several concerns associated with the Project and the Project Alternatives. BBID provides the following comments in anticipation of discussing them in further detail with DWR as it continues analyzing and refining the Project. BBID retains the	DWR is committed to continuing to work with all interested parties. This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the EIR. DWR has reviewed all

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	right to object to the ultimate construction and operation of Project facilities in the vicinity of its headquarters and within its boundaries, as such details become available.	comments and will consider all comments in its decision-making process.
549-6	1. The DEIR Fails to Consider Impacts to Biological Resources, Agriculture, and Socioeconomics Associated with Water Use for Construction Activities When Water Supply in the Delta is the Purported Basis for Curtailment Orders The Delta is subject to multiple Gubernatorial Proclamations of States of Emergency due to the ongoing and persistent drought conditions (Drought Emergency). The first Proclamation, issued on April 21, 2021, proclaimed a State of Emergency in limited counties, directing certain state agencies to take immediate action in response to the Drought Emergency. (Governor's Emergency Proclamation [Apr. 21, 2021].) The second, issued on May 10, 2021, expanded the State of Emergency to the Delta, among other regions, directing the State Water Resources Control Board (State Board) to consider emergency regulations to curtail diversions of water in the Delta. (Governor's Emergency Proclamation [May 10, 2021].) In 2022, Governor Newsom expanded the State of Emergency to the entire State of California, issuing Executive Order No-7-22, recognizing the severity of the ongoing multiyear drought, its "significant, immediate impacts," and underscoring "the need for California to redouble near-, medium-, and long-term efforts to adapt its water management and delivery systems to a changing climate, shifting precipitation patterns, and water scarcity…."" (Governor's Exec. Order No. N-7-22 [Mar. 28, 2022].) Responding to the Drought Emergency, the State Board adopted an Emergency Reporting and Curtailment Regulation	The statement in the comment is not totally consistent with the text in Chapter 3, Description of the Proposed Project and Alternatives. As noted in the remaining portions of the paragraph cited in the comment (in the section titled Water Supply, Drainage, and Utilities), the majority of construction water supplies would be provided by on-site supplies, including stormwater runoff and dewatering flows with additional flows, as needed, from on-site water supplies equivalent to historical water use on the construction site parcels. All of the stormwater runoff and dewatering flows within the construction sites would be collected, treated, and tested and diverted to on-site storage facilities for subsequent reuse for dust control, ground improvement, and tunnel boring machine operations. This would reduce the need for additional water supplies and avoid increasing peak runoff flows in adjacent drainage facilities and streams. The construction-related impacts of dewatering were analyzed in Chapter 8, Groundwater. There would be no changes in stream flows, available water supplies for adjacent or nearby land uses, or use of adjacent or nearby public services water or wastewater utilities. During construction or operation, the Delta Conveyance Project is not proposing to increase the total quantity of water permitted for diversion under existing DWR water rights. DWR is required to, and will continue to comply with, the State of California water rights priority system and area of origin laws during construction and operation. Water supply during construction is described in Chapter 3 in the section titled Local Water Supply, Drainage, and Utilities. The project description is evaluated throughout the EIR. Construction water supplies for all locations would be provided by re-use of treated dewatering and stormwater flows and on-site supplies except for the Bethany Reservoir Complex for Alternative 5. At the Bethany Reservoir Complex during some months, on-site flows, especially

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	for the Delta Watershed (Emergency Regulation) in the summer of 2021. Because drought conditions persisted, resulting in "severely limited water supplies in the Delta," the State Board significantly revised and then readopted the Emergency Regulation in the summer of 2022, addressing then-current and future potential water supply shortages. (State Board, Finding of Emergency Delta Emergency Regulation 2022 Finding of Emergency [Aug. 2, 2022], p. 1, emphasis added, https://www.waterboards.ca.gov/drought/delta/docs/2022/2022-delta-reg-digest-fiscal.pdf.) The State Board used the Emergency Regulation to issue curtailment orders since the late summer of 2021, ultimately curtailing approximately 4,500 water rights during the summer of 2022. (See Becker, State imposes sweeping ban on pumping river water in San Joaquin Valley, Bay Area, Cal Matters, [June 7, 2022 and updated June 8, 2022] https://calmatters.org/environment/2022/06/california-delta-water-cutbacks/.) In both years, the State Board issued these orders to some of the most senior water rights holders in the state (and, necessarily, all appropriators junior to them) because of purported supply issues in the Delta. [Footnote 2: The Emergency Regulation states a basis for curtailment orders is the purported water availability in the Delta, which the State Board staff calculates using various iterations of the Water Unavailability Methodology for the Delta Watershed.] The DEIR states, "Construction activities may require various amounts of water depending on the activity and location. The water supply needed for construction will be satisfied through	in drier years, would not be adequate. Therefore, as described in Chapter 3, a portion of the water supply in drier years would be conveyed from the SWP contract flows in the California Aqueduct from a location upstream of the Banks Pumping Plant in a new pipeline constructed parallel to Byron Highway. The amount of flow from the SWP California Aqueduct would be negligible as a portion contract deliveries. Much of the water demands during construction would be related to dust control; and during drier years, non-water methods could be considered to control on-site dust during construction, as allowed and described in Environmental Commitment EC-11 in Appendix 3B, Environmental Commitments and Best Management Practices. Finally, construction is not a permanent activity and water use would ultimately be constrained by the overall timeframe for construction, as well as the different phases of activities that may require water and their individual durations. Construction timing and durations for all alternatives is described in Chapter 3.

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	a combination of the following: import from local sources, exchanges, use of existing riparian diversions, new temporary applications, or existing State Water Project appropriations." (DEIR, p. 3-66, emphasis added.) The need for additional water supply in the Delta for Project construction activities is unreasonable because of the Delta's water supply issues. For two years, Delta water users have been subject to curtailment (or the threat of curtailment) of their diversion and use of water. For context, Delta water rights holders possess some of the oldest and most senior water rights in Northern California. The increased water demands for Project construction activities is an additional demand on a system that the State Board asserts faces supply issues. To the extent that the water needed for Project construction activities increases demand in the Delta system, it will be an additional water demand that the State Board may use to determine that the water supply is insufficient to meet, resulting in more curtailment orders in the Delta. Curtailments result in direct and/or reasonably foreseeable indirect impacts to agriculture (e.g., fallowing fields) and socioeconomics (e.g., loss of agricultural jobs). Despite these real issues facing the Delta, these impacts are not identified or discussed in Chapters 15 or 17.	
549-7	2. The DEIR Does Not Adequately Address Impacts to Existing Public Services and Utilities BBID [Byron-Bethany Irrigation District] is the Urban Wholesale Water Supplier for MHCSD [Mountain House Community Services District]. BBID supplies raw water to MHCSD through continuous operation of a 30-inch raw water pipeline serving the MHCSD water treatment plant (Mountain House	CEQA allows for the evaluation of impacts at a level of conceptual design. Regarding the scope of the EIR analysis, please see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues. DWR will continue to consult with utility operators, including BBID, prior to finalization of design regarding any proposed uses within BBID's right of way to avoid conflicts between the project and BBID facilities.

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	Conveyance). This raw water Conveyance runs parallel to Bruns Road, north to the Byron Highway, then east parallel to the Byron Highway to the MHCSD water treatment plant located on the north side of Byron Highway opposite the intersection with Great Valley Parkway. As identified in the DEIR, Alternative 5/Proposed Project's infrastructure will cross beneath BBID's Mountain House Conveyance at Byron Highway, as well as two BBID canals that are integral to its water service conveyance and distribution. Similarly, under Alternatives 2a and 4a, the Project infrastructure crosses under BBID's pipeline to the tunnel to the Delta-Mendota Canal. While BBID appreciates DWR preparing a technical memorandum examining the potential for impacts to existing facilities, BBID remains concerned with the DEIR's conclusion, which appears to save critical analyses of infrastructure impacts for a later date. "During the design phase, more in-depth analysis of easement locations associated with acquired parcels and utilities surveys would be completed to locate, understand, and avoid conflicts with existing utilities." (DEIR, Ch. 21: Public Utilities, p. 21-33.) The DEIR neglects to include the utilities surveys and parcel information necessary to adequately assess potential impacts to critically important water supply infrastructure for Proposed Alternatives.	Please see Common Response 7, Implementation Considerations, regarding how DWR would obtain access to properties to conduct utilities surveys.
549-8	3. Agricultural, Socioeconomic, and Cumulative Impacts Due to Removal of Productive Agricultural Land & Risk of Cumulatively Significant Impacts BBID [Byron-Bethany Irrigation District] operates and maintains irrigation and raw water distribution systems and manages its water rights, water supplies, and (when needed) supplemental	This comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the Draft EIR. Please see Common Response 7 for further information on the relationship between the project and potential financial impacts on special districts operating in the Delta. As described in multiple places in the EIR (e.g., Executive Summary; Chapter 4, Framework for the Environmental Analysis; and Chapter 17, Socioeconomics) under CEQA,

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	supplies, utilizing the rates paid by customers for its water service. All Project Alternatives will result in the removal of currently productive, irrigated agricultural lands that receive water service from BBID. Alternative 5/Proposed Project will result in the largest loss of agricultural lands within BBID's service area due to the Proposed Project's construction of three large facilities: the Bethany Pumping Plant and Surge Basin, and the Bethany Reservoir Aqueduct. The loss of productive agricultural lands and the resulting cessation of water service thereto will negatively impact BBID's revenues. Accordingly, BBID seeks financial mitigation for the impact to its annual revenue resulting from removing irrigated agricultural lands from its service area.	social or economic effects are not treated as impacts on the physical environment. Please refer to Common Response 1 regarding the requirements of CEQA to mitigate potentially significant environmental effects.
549-9	BBID [Byron-Bethany Irrigation District] appreciates the DEIR's discussion of impacts to BBID, but it remains wary of the Project's potential to result in significant and long-lasting impacts to its operations and to the Delta as a whole. BBID, the predecessor of which was formed in 1914, is deeply concerned with maintaining the economic health and well-being of the region. Though the DEIR discusses socioeconomic and agricultural impacts, BBID believes that impacts to agricultural resources (i.e., conversion of agricultural land) and resulting adverse impacts to agricultural jobs are significantly detrimental. These impacts, coupled with preexisting and threatened impacts caused by curtailment, present a real and serious risk of cumulatively significant impacts to agricultural and socioeconomic resources.	Please refer to Common Response 1 regarding comments that state opinions of general opposition to the project. Please also see Chapter 2, Purpose and Project Objectives, regarding the purpose of the project. The EIR provides an impact analysis of resources raised by the comment. The comment's assertions regarding impacts on agricultural resources and socioeconomic effects are discussed in Chapter 15, Agricultural Resources, and Chapter 17, Socioeconomics. As shown in these analyses in the EIR, all significant impacts are disclosed and incorporate appropriate mitigation. Please also refer to responses to comments 549-6 regarding curtailment and 549-8 regarding socioeconomic impacts of conversion of agricultural land.
549-10	BBID values the opportunity to review and provide comments on the DEIR and looks forward to discussing these comments, and other stakeholders', as the additional information regarding the Project becomes available. Please do not hesitate to contact me with any questions.	This information is general closing text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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550-1	Thank you for the opportunity to comment on the Department of Water Resources' (DWR) Delta Conveyance Project (DCP or Project) Draft Environmental Impact Report (DEIR). Our office represents the City of Folsom (Folsom), the City of Roseville (Roseville) and Sacramento Suburban Water District (SSWD), and we submit this letter on their behalf.	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
550-2	While this letter contains discrete comments, they all relate to the fact that CalSim 3 hydrologic modeling on which the DEIR's analysis is based does not appear to adequately capture how State Water Project (SWP) and Central Valley Project (CVP) facilities would operate with the DCP. The DEIR therefore does not adequately describe the potential effects the DCP could have, without appropriate mitigation, on the American River and Folsom Reservoir, on which Folsom, Roseville and SSWD depend in serving their hundreds of thousands of customers.	Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the CEQA process and general approach to analysis, and Common Response 9, Hydrologic Modeling and Approach, regarding the modeled representation of operation criteria and use of the best available science and tools. The hydrologic modeling conducted for each alternative is an accurate depiction of how each alternative would operate and the resulting changes in hydrologic conditions including river flows, reservoir storage, and water deliveries. Those changes are summarized in Chapter 5, Surface Water, and provide information that was used to support the environmental assessment and allow an accurate comparison of impacts between alternatives. Please also refer to Common Response 3, Alternatives Development and Description, regarding information on project operations and the proposed new operational criteria.
550-3	1. Background Folsom and Roseville each depend on water diverted from Folsom Reservoir as their primary water source. Folsom has limited access to groundwater through an intertie with Golden State Water Company, but the volume is less than 5% of the total demand. Roseville is taking many innovative steps to broaden its water-supply portfolio, such as implementing aquifer storage and recovery (ASR) to augment available groundwater storage. The source of that ASR supply, however,	This information describes the background of the organization or individual commenter. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.

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	remains water diverted from the American River via the Municipal & Industrial Intake at Folsom Reservoir. SSWD's primary water supply is groundwater pumped from the North American Subbasin, but SSWD seeks to diversify its supply portfolio using surface water whenever possible. For example, SSWD takes high-flow surplus water (known as "215" water due to the section of the federal reclamation laws under which it is offered to water districts) when the Bureau of Reclamation makes it available. SSWD also has a contract for surface-water supplies from Placer County Water Agency under which SSWD uses surface water in wetter years. All of SSWD's surface-water supplies therefore depend on Folsom Reservoir. In addition, if surface supplies from the reservoir were to prove inadequate, other water suppliers presumably would need to pump groundwater, which would draw down the aquifers on which SSWD depends and could also cause the migration of contamination plumes associated with regional industrial facilities and former military installations. Folsom Reservoir's management under coordinated CVP/SWP operations therefore is critical to the water supplies that Folsom, Roseville and SSWD serve to their customers and the public. In addition, Folsom, Roseville and SSWD are members of the Water Forum, the organization of water suppliers, environmental groups, public agencies and business interests that signed a memorandum of understanding concerning the lower American River in 2000. The signatories to that memorandum—the Water Forum Agreement—collectively seek to implement management of the lower American River to meet the coequal objectives of maintaining reliable water supplies for the Sacramento region and of preserving the river's environmental values. Those values include steelhead	

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	(listed under the federal Endangered Species Act), fall-run Chinook salmon, and many other resources that are treasured within the region and have supported the river's designation under both the federal and state Wild & Scenic Rivers Acts. (46 Federal Register 7484 (Jan. 23, 1981); Pub. Resources Code § 5093.54(e).) All of those values depend on appropriate management of Folsom Reservoir as part of the coordinated CVP/SWP operations.	
550-4	2. The CalSim 3 Modeling That Supports the DEIR Does Not Appear to Adequately Reflect Coordinated CVP/SWP Operations with the DCP in Place and Therefore Does Not Adequately Describe the DCP's Potential Effects on Folsom Reservoir, the Lower American River and the Water Supplies For Folsom, Roseville and SSWD [Sacramento Suburban Water District]	Please refer to response to comment 550-2 regarding the adequacy of the CalSim 3 modeling and how it accurately depicts the project operations and supports accurate impact analyses. Contrary to the comment's assertion, the hydrologic modeling conducted for the EIR is a realistic representation of operations with the Delta Conveyance Project and accounts for effects on Folsom Reservoir and the Lower American River.
550-5	The DCP would add a new diversion facility to be used by the SWP in the northern part of the Delta, near the town of Hood. DWR proposes to use water diverted through the new diversion facilities to export water to its SWP contractors in areas south of the Delta. The DEIR explains that the new diversion would operate in addition to, and coordination with, DWR's existing diversion in the southern Delta. Folsom, Roseville and SSWD recognize the need for DWR to take steps to ensure reliable water supplies throughout California and therefore understand why DWR is proposing the DCP.	This comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
550-6	As explained in more detail below and in the attached memorandum prepared by MBK Engineers (see Attachment A) [see Attachment 1: MBK Engineers Delta Conveyance Project Modeling Review], the CalSim 3 modeling on which the DEIR's environmental analyses are based does not adequately depict how the SWP [State Water Project], and therefore the CVP [Central Valley Project] and Folsom Reservoir, would operate	Please refer to response to comment 550-2 regarding the adequacy of the CalSim 3 modeling and how it accurately depicts the project operations and supports accurate impact analyses. CalSim 3 modeling results comparing hydrologic conditions, storage, deliveries, with the Delta Conveyance Project in place to existing conditions, including for Folsom reservoir and the American River, are described in Chapter 5, Surface Water, and Chapter 6, Water Supply. The results in these chapters show changes that range

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	with the DCP in place. Accordingly, while the DEIR indicates that the DCP's implementation would have little effect on Folsom Reservoir operations and lower American River conditions, the DEIR's analysis of those effects is not reliable. In particular: - Important modeling assumptions are not identified as binding SWP operating criteria with the DCP in place. The primary example is the modeling assumption that DWR would not release water from Lake Oroville even if SWP has capacity to export that water. Accordingly, DWR will retain discretion to operate the SWP with the DCP differently than the way it was modeled in the DEIR, which may indirectly cause unanalyzed impacts on Folsom Reservoir and the lower American River basin through coordinated CVP/SWP operations.	from very similar to existing baseline conditions (e.g., no change from existing baseline conditions) to extremely minimal changes when compared to existing baseline conditions. Clarifying language has been added to Chapter 3, Description of the Proposed Project and Alternatives, regarding integration of the north Delta intakes with south Delta facilities and upstream storage operations. None of the revisions made to Chapter 3 resulted in a new significant environmental impact or substantial increase in the severity of an environmental impact or required additional mitigation measures to which DWR was unwilling to commit. Common Response 3, Alternatives Development and Description, further discusses the project description and upstream reservoir operations and storage.
550-7	As explained in more detail below and in the attached memorandum prepared by MBK Engineers (see Attachment A) [see Attachment 1: MBK Engineers Delta Conveyance Project Modeling Review], the CalSim 3 modeling on which the DEIR's environmental analyses are based does not adequately depict how the SWP [State Water Project], and therefore the CVP [Central Valley Project] and Folsom Reservoir, would operate with the DCP in place. Accordingly, while the DEIR indicates that the DCP's implementation would have little effect on Folsom Reservoir operations and lower American River conditions, the DEIR's analysis of those effects is not reliable. In particular: - The modeling assumptions embedded in the DEIR include regulatory terms that have not been followed to their letter in coordinated CVP/SWP operations. The relevant regulatory terms include the requirements of the 2019 National Marine	Please refer to responses to comments 550-2, 550-4 and 550-6 regarding the adequacy of the CalSim 3 modeling and how it accurately depicts the project operations and supports accurate impact analyses. As described in Chapter 3, Description of the Proposed Project and Alternatives, operations of the SWP and CVP facilities (pursuant to the Coordinated Operations Agreement) are governed by applicable regulatory requirements and would continue to be governed by applicable regulatory requirements under operation of the Delta Conveyance Project, including the State Water Board Water Right Decision D-1641, 2019 BiOps, and 2020 State Water Project ITP. This includes the 2017 Modified Flow Management Standard on the American River. Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, discusses existing conditions baseline, including those regulations. The proposed project would be operated consistent with these regulatory requirements and the north Delta diversions operation criteria described in

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	Fisheries Service Biological Opinion for the Long-Term Operation of the Central Valley Project and the State Water Project (2019 NMFS BiOP) and the 2019 United States Fish and Wildlife Service (USFWS) Biological Opinion for the Long-Term Operation of the Central Valley Project and the State Water Project (2019 USFWS BiOP) (collectively, the Opinions). To date, the CVP and SWP have not operated consistent with the requirements of the Opinions because, for example, the Bureau of Reclamation has not followed the Opinions' terms concerning Folsom Reservoir and the lower American River since the Opinions were issued. CEQA requires a project's impacts to be evaluated against actual physical environmental conditions, not hypothetical conditions like those that may be permitted but have never actually occurred. (Cal. Code Regs., tit. 14, § 15125; Fat v. County of Sacramento (2002) 97 Cal.App.4th 1270, 1274, 1278; Communities for a Better Environment v. South Coast Air Quality Management Dist. (2010) 48 Cal.4th 310, 321.) The baseline conditions that the DEIR assumes therefore do not reflect actual physical environmental conditions, so the DEIR's analysis of the DCP's potential impacts on Folsom Reservoir and the lower American River is not adequate.	Chapter 3, which are accurately represented by the modeling assumptions described in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, and Common Response 9, Hydrologic Modeling and Approach. In addition, as discussed in Common Response 3, Alternatives Development and Description, operations of the Delta Conveyance Project do not include changes to State Water Project or Central Valley Project operational criteria upstream of the proposed north Delta intake.
550-8	A. Modeling Assumptions Are Not Described as Operating Criteria Resulting in, Among Other Things, an Inaccurate Depiction of Lake Oroville Operations and Therefore Coordinated SWP/CVP [State Water Project/Central Valley Project],Operations. MBK Engineers has reviewed the DCP's hydrologic modeling and the DEIR's related analysis. As discussed in MBK's attached memorandum (Attachment A) [see Attachment 1: MBK Engineers Delta Conveyance Project Modeling Review], the	The language in Chapter 3, Description of the Proposed Project and Alternatives, regarding operating criteria and the integration of north Delta intakes with south Delta facilities has been revised to clarify that the assumptions used in the hydrologic modeling of SWP operations with the Delta Conveyance Project in place are an accurate depiction of actual Project operations. Lake Oroville and other upstream storage facilities operations, as well as the coordinated SWP/CVP operations are accurately depicted and will continue to be managed consistent with the current and future regulatory and contractual obligations of the SWP. While the proposed Delta Conveyance Project may provide additional diversion

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	hydrologic modeling is limited in the scenarios analyzed and contains assumptions regarding how the SWP may operate with the DCP in place, but DWR has not adopted any criteria or mitigation measures to ensure that operations are carried out in this manner. As a result, the DEIR does not adequately analyze the environmental impacts and water-supply effects that the DCP's implementation may have.	capacity, DWR would operate it consistent with the criteria described and modeled in the EIR and would not increase storage withdrawal for exports under most circumstances. Please refer to Chapter 3 for more details. The revision does not result in a new significant environmental impact or substantial increase in the severity of an environmental impact, nor does it require additional mitigation measures to which DWR was unwilling to commit.
550-9	A. Modeling Assumptions Are Not Described as Operating Criteria Resulting in, Among Other Things, an Inaccurate Depiction of Lake Oroville Operations and Therefore Coordinated SWP/CVP Operations. One way this could be problematic for Folsom Reservoir is the way the modeling has forecasted Lake Oroville operations with the Project in place. As explained in Attachment A [Attachment 1: MBK Engineers Delta Conveyance Project Modeling Review], release and conveyance of stored water from Lake Oroville is constrained in the modeling of the DEIR's Preferred Alternative by criteria that are inconsistent with the Existing Conditions modeling. DWR currently operates Lake Oroville to maintain minimum carryover storage of 1.6 million AF. (Attachment A, pp. 11-15, Figures 12-18.) This means that, in years when export capacity is available, DWR generally operates Oroville to release stored water from Oroville down to the carryover minimum. However, the modeling results indicate that, in some years with the DCP in place, DWR would not export water from Oroville when: (1) Oroville storage is above 1.6 million AF, and (2) there is available export capacity as a result of the DCP's implementation. (Id., pp. 13-15, Figures 16-18.) This is an unrealistic scenario given the need to maximize deliveries in order to repay the costs of the investments in the DCP. Further, this scenario would result in combined CVP/SWP	This comment raises similar project operation and hydrologic modeling topics to those raised in letter 545. Please refer to letter 545 (responses 545-29 through 545-32) for detailed responses on those similar topics. In addition, the CalSim 3 modeling results are an accurate depiction of Delta Conveyance Project operations, operational criteria, and integration into the SWP. Please refer to Common Response 3, Alternatives Development and Description, for discussion of comments received on Delta Conveyance Project operations including use of stored water and "maximum use of intake capacity. Despite the comment's suggestion that the model erred in its representation of Delta Conveyance Project operations, results reflect how the Delta Conveyance Project would be operated. It is unclear in this comment which criteria may be inconsistent with existing conditions criteria. The CalSim 3 modeling also depicts the CVP's use of JPOD at the south Delta SWP facilities appropriately. For the CalSim 3 modeling results, the stated potential effects on Folsom were not identified. CEQA requires reasonable disclosure of the significant physical environmental impacts of the project as described in the project description. The EIR has disclosed potential water supply changes in Chapter 6, Water Supply. This information is used for information purposes only and to inform other resource impacts in Chapters 7–32. CEQA significance conclusions for these changes are not required.

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	storage that is improbably high, which skews the modeling results in periods going from wetter years into drier years. Based on the way the SWP/CVP have operated in the past, the more likely scenario is that DWR would use the DCP's available capacity to convey water stored in Oroville above 1.6 million AF whenever possible, leaving Oroville less full that what has been modeled going into what could be a dry year. This is significant to Folsom, Roseville and SSWD [Sacramento Suburban Water District] because unanalyzed drawdowns of Oroville storage in wetter years followed by drier years could impact Folsom Reservoir storage through coordinated CVP/SWP operations. With less water in Oroville storage than the DEIR analyzes, actual CVP/SWP operations with the DCP in place could result in the necessity for Folsom Reservoir to be drawn down more in drier years than the DEIR indicates. Because Folsom Reservoir is the CVP/SWP reservoir that is closest to the Delta, it often is used as a "first responder" when Delta conditions require upstream reservoir releases. With Oroville storage likely to be lower in wet years going into dry years than the DEIR's modeling indicates, the DEIR understates the risk that actual conditions will require more frequent draws on Folsom Reservoir. As a result, the DEIR's depiction of the effect of the DCP's implementation on Folsom Reservoir storage and the lower American River is not reliable because it has likely underestimated those effects by overstating the amount of stored water that will be available in Oroville in certain years. Similarly, the modeling assumes that, even when DWR's use of the DCP has freed up capacity at the south Delta diversions, Reclamation will not take advantage of that capacity to move	

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	water. But if Reclamation does use this capacity during balanced Delta conditions, the stored water in both Folsom and Shasta could be reduced, resulting in potential deficits if the subsequent year is dry. CEQA requires an EIR to evaluate the reasonably foreseeable impacts of the project on the environment, which includes the impacts of meeting the water supply needs caused by the project. (Pub. Resources Code, §§ 21065, 21080(d); Cal. Code Regs., tit. 14, §§ 15002, 15004, 15021; Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova (2007) 40 Cal.4th 412, 434; In re Bay-Delta Programmatic Environmental Impact Report (2008) 43 Cal.4th 1143, 1173.) It is reasonably foreseeable that, with the DCP in place, DWR would export all water above 1.6 million AF stored in Oroville, and Reclamation would utilize available capacity at the South Delta diversions; although the DEIR's modeling does not depict this, the DCP does not include any operational criteria or mitigation measures that would preclude moving this water, and the Projects would have operational incentives to do so. It therefore is reasonably foreseeable that the upstream reservoirs would be drier going into dry years than the DEIR's modeling assumes, thereby increasing the likelihood that releases from Folsom Reservoir will be required to meet the Projects' Delta water quality obligations or other operational parameters in those years. Thus, the DEIR's unrealistic assumptions about Project operations mean that it does not adequately analyze the DCP's potential effects on Folsom Reservoir storage and the lower American River.	
550-10	B. The DEIR Does Not Adequately Analyze the DCP's Potential Effect on Folsom Reservoir and the Lower American River Resulting From the DCP's Effect on the Delta's Salinity Field	The CalSim 3 modeling outputs reflect the operations described in Chapter 3, Description of the Proposed Project and Alternatives, and documented in in the relevant sections of Appendix 5A, Modeling Technical Appendix,

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	The CalSim 3 modeling on which the DEIR relies indicates that the DCP's operation will result in significant increases in total Delta exports by the CVP and the SWP. (Attachment A [Attachment 1: MBK Engineers Delta Conveyance Project Modeling Review], pp. 3-4, Figure 2.) That modeling indicates that the increases would average 588,000 AFY, with estimated exports of 676,000 AF in wet years, 995,000 AF in above normal years, 618,000 AF in below normal years, 444,000 AF in dry years, and 162,000 AF in critical years. (Id.) In fact, as discussed above, the increases in combined SWP/CVP exports with the DCP may be greater because the modeling does not realistically depict Oroville operations with the DCP in place. Increased Delta exports with the DCP in place will reduce Delta outflows, causing the salinity field to move inland and potentially requiring later releases of water from CVP/SWP storage in order to meet Delta water quality requirements, including those under the State Water Resources Control Board's Decision 1641 (D-1641). (Attachment A [Attachment 1: MBK Engineers Delta Conveyance Project Modeling Review], pp. 8-10.) This effect could be exacerbated because the DCP necessarily will divert water from the Sacramento River, which provides fresher inflow to the Delta than does the San Joaquin River. (Id.) Accordingly, the DCP's implementation may not only decrease Delta outflows and cause the salinity field to move inland, but also cause the water that remains in the Delta to be saltier. The DEIR does not adequately analyze how these changes in Delta conditions with the DCP in place may impact Folsom Reservoir and the lower American River. These impacts may	Section A, Modeling Overview. Contrary to the comment's assertion, the modeling is a realistic representation of operations with the Delta Conveyance Project and accounts for any effects on Folsom Reservoir and the Lower American River. Note that Chapter 9, Water Quality, in the section titled Impacts of the Project Alternatives on Water Quality, specifically states that "CalSim 3 modeling results for project alternatives show small average end-of-month storage changes for the full simulation period for Trinity Lake, Shasta Lake, Lake Oroville, and Folsom Lake, relative to existing conditions, thus there would not be substantial, if any, changes to reservoir seasonal thermal profiles, biochemical processes, or dilution capacity within the reservoirs." CalSim 3 accounts for any changes in Delta salinity with the operation of the Delta Conveyance Project and it does simulate releases from the upstream CVP and SWP reservoirs to address Delta salinity. As the commenter describes, typically, because of its closer proximity to the Delta, releases from Folsom Reservoir may be used as a first response to meeting Delta water quality requirements after the Delta export cuts; however, this could then be offset by larger release from other upstream reservoirs and reduced releases from Folsom. As shown in the EIR, Folsom storage and lower American River flows are not affected with Delta Conveyance Project operations. Chapter 12, Fish and Aquatic Resources, fully analyzes impacts on the ESA-listed winter-run Chinook (Impact AQUA-2) using appropriate and accurate quantitative modeling results.

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	occur in one or more ways. As discussed above, Folsom Reservoir often is used as a "first responder" for Delta water quality issues because it is the closest CVP/SWP reservoir to the Delta. If the DCP's operations cause the Delta's salinity field to move inland, that may result in more instances in which Folsom Reservoir is required to release water to provide a first response of freshwater inflows to the Delta. In addition, if DCP-induced salinity intrusions require more releases of upstream CVP/SWP reservoir storage to repel those intrusions, then that may demand more releases from Folsom Reservoir simply as an increment of water demanded from CVP storage generally under the Coordinated Operations Agreement (COA). With the operations of the CVP's Lake Shasta becoming more and more constrained due to the requirements of ESA-listed winter-run Chinook salmon in the Sacramento River, the increased demands on the CVP overall resulting from the DCP operations would likely create more pressure for releases from Folsom Reservoir. Finally, expected increase in exports will also reduce the length of time that the Delta would be in excess conditions, potentially limiting upstream reservoir operators' ability to refill vacated storage. This is another potential impact of the Project on Folsom Reservoir and American River operations that is not adequately assessed in the DEIR.	
550-11	C. There Is No Basis to Support the Assumption in the DEIR's Modeling That the SWP Would Share the Benefits of Reduced Carriage-Water Obligations With the CVP and Produce Increased Upstream Storage The DEIR shows that moving water from the DCP's new north Delta diversion, rather than existing south Delta diversions, will result in less water needed for Delta outflow to maintain Delta salinity standards for a given rate of Delta exports (commonly	The modeling conducted for the EIR assumed carriage water allocation would be determined through the existing provisions of the COA. This modeling approach is a reasonable depiction of how the Delta Conveyance Project would be operated for purposes of the environmental impact assessment disclosed in the EIR because the provisions of the COA are currently described and do not require speculation on the part of DWR. There may be future coordination between DWR and USBR regarding allocation of carriage water savings due to operating the project. At that time, DWR would consider if additional hydrologic modeling, or other

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	referred to as "carriage water"). The modeling splits the benefits of the carriage water savings between the SWP and the CVP according to COA, with a priority placed on exporting the water saved by the reduction in needed carriage water. (Attachment A [Attachment 1: MBK Engineers Delta Conveyance Project Modeling Review], pp. I; 5.) The DEIR also states that any saved carriage water that cannot be exported will be backed up into north of Delta storage. Because the DEIR does not explain whether the sharing of the carriage water savings is discretionary or if it is part of the DCP's operating criteria, though, there is no guarantee that the savings will be shared between the CVP and SWP as shown in the modeling results. (Ibid.)	analyses, are needed if the allocation of carriage water savings falls outside of the parameters of the existing COA. Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the section titled North Delta Diversion Operational Criteria, addresses the commenters question regarding carriage water benefits, which the modeling assumed that the carriage water savings would be split between the SWP and CVP according to the COA. With respect to the question of intent, the model is built as a planning tool and responds to the rules and limitations documented in Appendix 5A, Section B, in the section titled CalSim 3 Model Components. Appendix 5A, Section B, in the section titled North Delta Diversion Operational Criteria, defines the term carriage water, and Footnote 19 to this appendix explains that carriage water costs (or savings) occur when compliance with D-1641 water quality objectives is controlling Delta operations. The comment speculates that the triggering of Term 91 would increase with the Delta Conveyance Project without any supporting analysis. As described in Common Response 9, Hydrologic Modeling and Approach, the frequency of when Term 91 is in effect under the project alternatives is similar to that under existing conditions, with no significant changes. Furthermore, even assuming a potential for increase in the instances of Term 91 triggering with Delta Conveyance Project, that in itself is not an impact, since SWP has senior water rights. As described in Common Response 8, CalSim 3 assumes carriage water is considered an in-basin requirement that is shared between the SWP and CVP under the COA.
550-12	Additionally, the DEIR does not describe how the Project would operationally shift diversions from the south Delta diversion to the new north Delta diversion in real time, or how this shift would impact in-Delta water quality. As discussed above, whether and how much water is in north of Delta storage—in	Please refer to Common Response 3, Alternatives Development and Description, for further explanation of shifting from south to north Delta diversions during certain salinity conditions in the south Delta. All of the water quality effects from Delta Conveyance Project operations are presented in Chapter 9, Water Quality, including for electrical conductivity.

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	both SWP and CVP reservoirs—will have impacts on how Folsom Reservoir is operated. The assumptions in the modeling informed the DEIR's environmental impact analysis and conclusions that the American River's water supply and environment would not experience significant impacts from the DCP, but, absent operating criteria or mitigation measures that assure that the CVP and the SWP will operate consistent with the modeling assumptions when the DCP is in place, the DEIR's analysis and conclusions are not reliable.	All of the impacts of Delta Conveyance Project operations for the range of water year types were determined to be less than significant.
550-13	D. The DEIR Inappropriately Assumes That Folsom Reservoir and American River Operations Will Actually Follow the 2019 Biological Opinions. CEQA requires a lead agency to evaluate the environmental impacts of a proposed project against existing environmental conditions in order to predict the impacts a proposed project would have on the existing environment if approved and implemented. (Pub. Resources Code, §§ 21061, 21060.5; Cal. Code Regs., tit. 14, § 15125; Neighbors for Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal.4th 439, 452.) The DEIR explains that the existing conditions assumptions include "existing facilities and ongoing programs that existed as of January 15, 2020 (publication date of the NOP) that affect or could be affected by implementation of the alternatives." (DEIR, Appendix 3C, § 3C.3.1, p. 3C-4.) According to the DEIR, the 2019 NMFS BiOp and the 2019 USFWS BiOp are part of the existing conditions baseline. (Ibid.) The terms of the 2019 Opinions have never been implemented as planned for the American River. For example, in water year 2021, low storage conditions at Oroville, concerns related to the winter-run Chinook salmon at Shasta, and dry hydrology	The EIR correctly compares the proposed project and alternatives to existing conditions at the time of the NOP as required by CEQA. These existing conditions include the current regulatory and both ESA and CESA requirements. Please refer also to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, for CEQA analysis. The occasional need for Temporary Urgency Change Petitions to address operations during dry conditions is not a component of the Delta Conveyance Project. It is a separate State Water Board process to address extreme conditions. Please also refer to Common Response 3, Alternatives Development and Description, for a discussion of the relationship of the TUCP process to the Delta Conveyance Project.

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	resulted in Folsom providing much higher releases than typical, and the temperature limits established as Incidental Take Level for the American River were exceeded. This necessitated an informal consultation so that NMFS could approve the deviation from the 2019 BiOp. A second violation occurred earlier this year, following the extraordinarily high releases (approximately 4000 cfs) that were made from Folsom for several months during the summer, which depleted the cold water pool and led to Reclamation seeking another variance from NMFS to reduce minimum reservoir releases during fall spawning season below the specified instream flows set in the 2019 BiOps. While these two years were exceptionally dry in most of the system, the American River watershed received about 80% of average hydrology in water year 2022. Nonetheless, its municipal and industrial contractors had their Central Valley Project allocations reduced to zero, and SWP/CVP coordinated operations still resulted in a near-complete depletion of the cold water pool. Because the DEIR assumes compliance with the 2019 BiOps, but this has not been achieved under existing conditions, the DEIR's analysis of the impacts to species on the American River is wholly unreliable. (Cal. Code Regs., tit. 14, § 15125; Fat v. County of Sacramento (2002) 97 Cal.App.4th 1270, 1274, 1278; Communities for a Better Environment v. South Coast Air Quality Management Dist. (2010) 48 Cal.4th 310, 321.) Additional analysis is needed to ensure the impacts of the proposed Project to the American River have been fully and adequately evaluated.	
550-14	3. Conclusion While the DEIR depicts the DCP's implementation as having	This comment is a concluding statement summarizing points raised in previous comments from the same letter and addressed accordingly. It does not raise any new additional comments regarding significant

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	few effects on Folsom Reservoir and the lower American River, the DEIR's analysis depends on CalSim 3 hydrologic modeling that has many problems. Because of the issues identified in this letter and Attachment A1 [Attachment 1: MBK Engineers Delta Conveyance Project Modeling Review], the DEIR does not adequately depict the impacts that CVP/SWP operations with the DCP in place may have on Folsom Reservoir and the lower American River, without the adoption of operating criteria or mitigation measures. Please do not hesitate to contact me if you have any questions about this letter.	environmental impacts or other contents of the EIR. For additional information, please reference comment responses 550-2, 550-4, 550-6, 550-7, 550-8, 550-9, 550-12, and 550-13.
550-15	[ATT 1: Report prepared by MBK Engineers titled "Delta Conveyance Project Modeling Review" dated December 16, 2022.]	The report prepared by MBK Engineers titled "Delta Conveyance Project Modeling Review" dated December 16, 2022, was submitted by multiple commenters. Rather than duplicate content, the entire report is included and responded to in Letter 545. Please refer to Volume 2, Chapter 2, Indices of Commenters and Index of Primary Forms, to locate responses to letter 545 contained in Chapter 4, Response to Comments Tables.
552-1	These comments are submitted by Solano County ("County") on the July 2022 Delta Conveyance Project ("project" "DCP" or "tunnel") Draft Environmental Impact Report ("DEIR") prepared by the California Department of Water Resources ("DWR") pursuant to the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq. ["CEQA"]).[Footnote 1: These comments focus on Alternative 5, though they may also apply to other alternatives.] A large portion of the legal Delta is located in eastern Solano County. Although the tunnel would not be constructed in Solano County, the project would cause significant and detrimental impacts to the County in areas such as agriculture, land use, water quality, and transportation. Furthermore, the Delta is critical to Solano County's regional water supply for both municipal and agricultural communities,	This information clarification on the submittal of the comment letter, or general introductory text. Please see responses to comments contained herein regarding impacts on agriculture and land use (e.g., 552-3, 552-10, and 552-19), water quality (e.g., 552-3, 552-10, 552-12), and transportation (e.g., 552-13 to 552-17), as well as those regarding the evaluation of water supply in the EIR (e.g., 552-58 and 552-59), effects on agricultural production (e.g., 552-18), and effects on fish (e.g., 552-24 to 552-29). DWR has reviewed all comments and will consider all comments in its decision-making process.

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	and businesses. These water supplies would be made less secure as a result of the tunnel. Consequently, the potential negative impacts on agricultural production conflicts with the Solano County General Plan Agriculture regional policies AG. P-26, which is to support the maintenance and expansion of profitable agricultural production. In addition, the project appears unlikely to reduce the take of listed fish that are part of the Delta's aquatic environment. The County requests that DWR consider the comments contained herein and fully address the deficiencies described in this letter.	
552-2	The County [Solano County] is a member of the Delta Counties Coalition ("DCC"), which is an alliance comprised of the California Counties of Contra Costa, Sacramento, San Joaquin, Solano, and Yolo, which works collaboratively to give one voice on behalf of the Sacramento-San Joaquin River Delta and its four million area-wide residents. The five counties are united in their serious concerns with respect to the short- and long-term effects that the tunnel would have on the environment and the people of the California Delta. In addition to these comments, the County also supports the comments of the other four Delta counties and the DCC. In particular, Solano County coordinated with Contra Costa County on comments regarding the potential water quality impacts of the tunnel and an accompanying report prepared by Exponent, which are incorporated herein by reference.	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, and clarification on the submittal of the comment letter. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process. Please refer to Volume 2, Chapter 2, Indices of Commenters and Index of Primary Forms, to locate the letter numbers of comments provided by other entities that are of interest. Responses to all comment letters are provided in Chapter 4, Response to Comments Tables.
552-3	A. THE DEIR FAILS TO ADEQUATELY ANALYZE OR DISCUSS THE IMPACTS FROM RESTORATION PROJECTS IN THE DELTA. The County [Solano County] is concerned that projects undertaken under the Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources described in the Appendix 3F of the DEIR, along with other completed and	The potentially significant impacts associated with the Compensatory Mitigation Plan (CMP) are evaluated throughout the resource chapters in the EIR, as described in Chapter 4, Framework for the Environmental Analysis, section titled Mitigation Measures with Potential to Cause Environmental Effects. This includes an evaluation of agricultural resources. These potential mitigation measure impacts, combined with potential cumulative projects that DWR or other agencies may pursue in the future

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	planned restoration projects within the County, would create or exacerbate mis- or un-analyzed environmental impacts. These restoration projects impact the County's water quality, biological resources, and critical flood control infrastructure. Many of the restoration projects change currently agricultural properties to restoration use. The cumulative impacts of the loss of these agricultural properties, which support numerous state and federal listed species, and the inherent environmental impacts of the conversion of this land to predominately aquatic restoration projects are likely significant.	are also evaluated in the cumulative section of each resource chapter. Please see Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the CEQA process and the level of detail currently included in the CMP. The final compensatory habitat mitigation needs for the project will be determined once all regulatory permits and approvals are secured. The mitigation approaches are described in sufficient detail to meet the requirements of CEQA. It is anticipated that additional design and management planning, including more detailed performance standards, monitoring methods, and adaptive management actions, would be refined through the permitting process prior to project approval and initiation. Therefore, the EIR identified the general location of the mitigation sites, which is sufficient for disclosure purposes under CEQA. Please see Common Response 11, Terrestrial Biological Resources and Compensatory Mitigation Plan, in the section discussing the Compensatory Mitigation Plan regarding the location of tidal habitat restoration. DWR acknowledges the specific locations for tidal habitat restoration mitigation have not been determined at this time but generally planned to occur in the North Delta Arc region. As described in Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources, section titled Site Selection Criteria and Tools, siting would consider factors such as location of nearby drinking water supply intakes, local hydraulics, source water, and drainages. The results of the EIR's assessment would be reviewed once the exact location of the restoration actions is determined. The review of the assessment would also take into consideration other restoration projects occurring within the Delta Conveyance Project study area. Should it be determined in the future that additional environmental review is required for individual tidal restoration sites, the requirements of CEQA, including disclosure of cumulative impacts, would be included in the appropriate CEQA document. In addition, please see Common Response 11

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		regarding the effectiveness of mitigation measures. The CMP is set up with performance standards to adequately direct the implementation of mitigation based on the detailed surveys that will be performed post-project approval.
552-4	Further, the DEIR's failure to provide specific restoration locations within the targeted 'North Delta Arc' area creates further uncertainty as to the project's impacts on local resources and land uses. The County [Solano County] requests that the DEIR be recirculated with specific locations of potential restoration projects and information regarding the related impacts, similar to the level of detail provided for the Bouldin Island and I-5 pond components of the Compensatory Mitigation Plan.	Please refer to response to comment 552-3 regarding the evaluation of potential impacts associated with the CMP, the selection of locations for the CMP, and the level of detail currently included in the CMP.
552-5	1. The DEIR Lacks Essential Information Regarding Restoration Impacts Associated with the Project. The DEIR's discussion of future restoration to mitigate project impacts on agriculture creates uncertainty about the effectiveness of these future actions and confusion about the location and impacts of future restoration. Without providing the location and impacts of potential restoration projects, which the DEIR indicates would be required as mitigation, the DEIR provides an inadequate impact analysis. "If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed." (CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.), § 15126.4, subd. (a)(1)(B).) The incomplete discussion of restoration that would be pursued under the project is also a failure to adequately describe the project as required by CEQA. (CEQA Guidelines, § 15124.)	Please refer to response to comment 552-3 regarding the evaluation of potential impacts associated with the CMP, the selection of locations for the CMP, and the level of detail currently included in the CMP. CEQA requires disclosure of potentially significant impacts associated with the implementation of mitigation measures, which is done in the EIR. As described in Chapter 4, section titled Mitigation Measures with Potential to Cause Environmental Effects, each resource chapter includes a discussion of potential impacts associated with construction, operations, and maintenance necessary to implement the compensatory mitigation and other mitigation. Resource chapters make impact conclusions regarding the implementation of the CMP and identify if the impact conclusions would differ with those disclosed for the project alternatives. For example, Chapter 15, Agricultural Resources, discloses the potential acreage conversation of Important Farmland, Prime Farmland, and Farmland of Local Importance to different land cover types. This disclosure also includes estimated acreages in the North Delta Arc as well as estimations associated with the restoration of tidal perennial habitat for delta smelt and longfin smelt. All of this information is based on the current details of the CMP and the chapter acknowledges that the amount of tidal habitat mitigation and

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		location of future tidal habitat mitigation sites have yet to be determined. The analysis of the CMP concludes that even with implementation of Mitigation Measures AG-1, which would be implemented for the project and for the impacts associated with implementing the CMP, impacts under Impact AG-1 would remain significant and unavoidable. As described in Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, lead agencies have the discretion to certify and EIR and approve a project even with the disclosure of significant and unavoidable impacts, through the issuance of findings and statement of overriding considerations.
552-6	The DEIR states, "The compensatory mitigation planned at the I-5 ponds (Ponds 6, 7, and 8), Bouldin Island, and the North Delta Arc is expected to be built to offset, in part or in whole, the potential impacts resulting from construction and operation of the project on terrestrial and aquatic biological resources." (DEIR, p. 15-39.) The project would require between 1,700 and 4,900 linear feet of channel margin habitat mitigation and between 1,228 and 1,600 acres of tidal habitat restoration (DEIR, p. 3F-56), with the following breakdown: [Exhibit 1] The North Delta Arc is the only other place specifically named in the DEIR for siting potential future restoration projects besides Bouldin Island and the I-5 ponds. (See DEIR, pp. 15-39, 3F-65, 3F-66.) Therefore, it is reasonable to infer that at least some restoration would be located in the North Delta Arc. (DEIR, p. 15-40 [4,500 linear feet of channel margin habitat could be created in the North Delta Arc.].) Solano County makes up a large portion of the North Delta Arc. (Map of North Delta Arc, Exhibit 1 [Attachment 1].) Therefore, based on the limited information provided by the DEIR, it is reasonable to believe that many, if not most, of these restoration projects	Please refer to response to comment 552-3 and response to comment 552-4 regarding the evaluation of potential impacts associated with the CMP and the level of detail currently included in the CMP. The EIR evaluates the potentially significant environmental impacts on water quality, terrestrial biological species, fish and aquatic resources, land use, agriculture, and airports associated with restoration in the North Delta Arc based on the level of detail available at the time of the preparation of the EIR. Please see Chapter 9, Water Quality, under each impact (subheadings titled Mitigation Impacts, Compensatory Mitigation) for a discussion of potentially significant impacts on each water quality constituent associated with implementation of the CMP. For example, under Impact WQ-6, the EIR evaluates potential effects of Delta mercury levels in and near tidal habitats created as part of the CMP. Given the evaluation of mercury under this impact which relies on water quality data, literature, and modeled fish tissue in the Delta, DWR determined, in an abundance of caution, that the impact of new tidal habitats created in accordance with the CMP on mercury concentrations in Delta organisms residing within the wetlands and immediately adjacent Delta waters would be potentially significant. Accordingly, DWR proposed Mitigation Measure WQ-6 to reduce and minimize the potentially significant impact to less than significant. Please also see Chapter 12, Fish and Aquatic Resources and Chapter 13, Terrestrial Biological Resources, for evaluations of the CMP under each impact

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	would be undertaken in Solano County. However, unlike the Bouldin Island and I-5 pond mitigation sites, these other sites are not identified. Thus, required restoration in the North Delta Arc would create impacts not identified in the DEIR, such as localized ecological, agricultural, land use, and water quality impacts, among impacts to local land uses including airports and Travis Airforce Base operations and training.	subheadings (subheading titled Mitigation Impacts, Compensatory Mitigation). Please see Chapter 15, Agricultural Resources, under each impact (subheadings titled Mitigation Impacts, Compensatory Mitigation) for a discussion of potentially significant impacts on agriculture associated with implementation of the CMP. Please see Chapter 14, Land Use, which addresses potential land use impacts associated with the CMP and concludes the resulting restored habitat is unlikely to be incompatible with existing land uses (Impact LU-2). As described in Appendix 3F, response to comment 524-3, and elsewhere in the EIR the precise boundary of the North Delta Arc is not defined but as described in Appendix 3F, site selection would be targeted within the same general geography of the project, including along the Sacramento River mainstem, north Delta along Sacramento River tributaries (e.g., Steamboat, Sutter, and Elk Sloughs), lower Yolo Bypass, and the Cache Slough Complex, areas that would be located away from Travis Airforce Base. The North Delta Arc would be in areas that Solano County has designated as either agriculture or marsh depending on the specific location, thus the CMP would be generally consistent with these land use designations. Chapter 20, Transportation, evaluates traffic associated with implementation of restoration sites under the CMP. Impact TRANS-1 identifies impacts associated with VMT would be significant and unavoidable because implementation of Mitigation Measure TRANS-1 would not fully reduce VMT impacts. Impacts TRANS-2 through TRANS-4 would be less than significant related to CMP activities because of the relatively small size of these features, the nature and the amount of construction equipment needed for habitat restoration, and the locations of habitat restoration. Please also refer to responses to comments 552-13 through 552-17 regarding information related to Solano County, traffic and Travis Airforce Base. Finally, as noted in response to comment 552-3, the results of the EIR's assessment would be reviewed once the exact location of the restoration actions under the CMP is determined. The review of the assessment would also take into consideration other restoration projects occurring within the Delta Conveyance Project study area. Should it be

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		determined in the future that additional environmental review is required for individual tidal restoration sites, the requirements of CEQA, including disclosure of cumulative impacts, would be included in the appropriate CEQA document.
552-7	[Exhibit 1: Table listing the acreages of habitat mitigation types.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-8	The DEIR recognizes that several types of direct impacts would occur from tidal habitat restoration and channel margin restoration. For example, tidal marsh restoration requires extensive earthwork that may include breaching existing levees or berms, grading existing parcels, and could require the use of additional fill to "raise subsided areas to intertidal elevations or to reinforce surrounding levees." (DEIR, p. 3F-67.) Additionally, these activities may include "[v]arious infrastructure modifications, such as protection, removal, or relocation of existing utilities, pumping systems, and other water management structures would occur as needed. Typically work would be sequenced so that grading and infrastructure improvements occur first, followed by planting and finally breaching of the existing levee to reintroduce tidal action." (Ibid.) Each of these activities by themselves can have massive environmental impacts during construction, and during operations and maintenance, individually and cumulatively. The County is concerned that these future restoration projects would create significant negative impacts within the County. Therefore, the DEIR should provide potential locations of future North Delta Arc restoration projects and provide an accurate analysis of the impacts of those projects individually and cumulatively.	Please refer to response to comment 552-3 regarding the evaluation of potential impacts associated with the CMP, the locations for the CMP, and the level of detail currently included in the CMP.

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552-9	Additionally, the DEIR does not explain why these mitigation sites [Bouldin Island, North Delta Arc, I-5 ponds] have not already been selected and analyzed. The court in Save the Agoura Cornell Knoll v. City of Agoura Hills (2020) 46 Cal.App.5th 665 found mitigation for special-status species to be improperly deferred because the agency had not shown that it was infeasible for the City to perform necessary surveys prior to the project's approval. (Id. at pp. 691-694.) The same is true here. Failing to obtain this information for inclusion in the DEIR's analysis results in an inadequate analysis of project mitigation impacts that would occur in Solano County.	The assertion that mitigation sites on Bouldin Island (non-tidal initial mitigation sites) and the I-5 ponds have not been selected and analyzed is not consistent with the analyses contained in the EIR. As stated in Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources, in the Site Selection Criteria section, initial compensatory mitigation actions are focused on lands owned by DWR (I-5 ponds) or partners (Bouldin Island). The CMP has been revised to remove channel margin habitat sites from Bouldin Island because those sites were not within the main migratory pathway of Sacramento Basin listed anadromous fish species. None of the revisions described in the EIR resulted in a new significant environmental impact or substantial increase in the severity of an environmental impact or required additional mitigation measures to which DWR was unwilling to commit. Please refer to response to comment 552-3 regarding the evaluation of potential impacts associated with the CMP, the locations for the CMP, and the level of detail currently included in the CMP. The CMP is set up with performance standards to adequately direct the implementation of mitigation based on the detailed surveys that will be performed post-project approval. The EIR identified the general location of the mitigation sites, which is sufficient for disclosure purposes under CEQA.
552-10	2. Cumulative Impacts from Past, Present and Future Restoration are Not Properly Analyzed The DEIR includes a cumulative impacts subsection for each resource. (DEIR, p. 4-2.) The subsection of each resource "discusses whether there is a cumulative significant environmental impact from the project's effects in combination with those of closely related past, present, and reasonably foreseeable probable future projects[.]" (Ibid.) The DEIR states that most cumulative impact assumptions come from the "existing conditions and No Project Alternative (2040)	Please refer to Common Response 1 CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the analysis of the cumulative impact assessment methodology that accounts for applicable past, present, and reasonably foreseeable projects that could make incremental contributions to cumulative impacts based on the cumulative project list in Appendix 3C. The geographic scope of the cumulative projects varies by resource depending on the potential for the projects listed in Appendix 3C, Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions, to influence a particular resource. Please refer to individual resource Chapters 7 through 32, each of which, as applicable, includes individual discussions of resource-specific

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	assumptions and reasonably foreseeable, probable future programs and projects." (DEIR, p. 4-12.) The cumulative impact assumptions are listed in Appendix 3C. (DEIR, pp. 3C-13--98.) However, the information provided in Appendix 3C does not adequately identify the types of impacts that each project would contribute. For example, Prospect Island Tidal Habitat Restoration Project is not included in the cumulative projects list in the Land Use or Agricultural Impact chapters. The description of Prospect Island Tidal Habitat Restoration Project in Appendix 3C fails to describe which cumulative impacts the Prospect Island project would contribute. (DEIR, p. 3C-93.) Failing to include all relevant projects that would increase cumulative impacts to an environmental resource violates CEQA. (CEQA Guidelines, § 15130.) The County is concerned that the cumulative impacts from the project, in combination with current, planned and future restoration projects are not properly analyzed. Restoration projects convert agricultural land, and impact water quality and flow patterns, and potentially increase the proliferation of harmful algal blooms. There are already numerous large completed and planned restoration projects in Solano County. (See Maps of Restoration Projects in Solano County, Exhibit 2 [Attachment 2]). The DEIR failed to include many of the projects identified in Exhibit 2 in the cumulative impact analyses for various resources. This omission results in an informationally deficient DEIR.	cumulative analysis, rationale for inclusion, and a table that discusses representative list of the cumulative projects considered. The cumulative analysis provided throughout the EIR conforms to State CEQA Guideline 15130. The comment assertions regarding needed discussion of agricultural resources and land use in consideration of the Prospect Island project are not supported by facts. According to the EIR for the Prospect Island project, the impacts on agricultural resources would not occur as the area has not been in agricultural production for greater than 25 years, is largely inundated, and only 17 acres are arable and not used for agriculture. The area is not designated important farmland, is not under a Williamson Act Contract and is not actively farmed, and the area would be restored with 17 acres of riparian habitat and no permanent conversion would occur. Regarding land use, the Prospect Island project would not contribute to a physical division of a community, and impacts from water intrusion to adjacent lands were mitigated. The project also is substantially distanced from the Delta Conveyance Project and the Prospect Island project was properly excluded from the cumulative analysis of for agriculture and land uses in the EIR.
552-11	3. The Efficacy of the Restoration Mitigation Is Uncertain. An EIR must discuss uncertain effects of mitigation measures and explain the uncertainty of a mitigation measure’s effectiveness. (King& Gardiner Farms, LLC v. County of Kern	The Delta Conveyance Project has been developed and analyzed to minimize uncertainty using best available science, including incorporation of adaptive management, as described in Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues. The purpose of adaptive management is to further account for

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	(2020) 45 Cal.App.5th 814, 866.) Here, the DEIR assumes that the compensatory mitigation being pursued would effectively mitigate the project's environmental impacts. The DEIR states, "The compensatory mitigation planned at the I- 5 ponds (Ponds 6, 7, and 8), on Bouldin Island, and the North Delta Arc is expected to be built to offset, in part or in whole, the potential impacts resulting from construction and operation of the project on terrestrial and aquatic biological resources." (DEIR, p. 15-39.) However, this conclusion is not supported by evidence in the DEIR and there is no discussion regarding the uncertainty of the mitigation's effectiveness. Instead, the DEIR finds that the compensatory mitigation would mitigate several significant impacts to less than significant levels. (See DEIR, pp. ES-33 - 44.) The DEIR fails to provide the location of the mitigation. This alone calls into question the certainty of the mitigation, which is not discussed in the DEIR. The research on the significant challenges in meeting restoration targets and avoiding ecological impacts such as invasive plant and animal communities is well documented in the Delta.[Footnote 2: Callaway et al., Tidal Wetland Restoration in San Francisco Bay: History and Current Issues, December 2011 (Exhibit 3) [Attachment 3].] The impacts of the poorly developed restoration and other compensatory mitigation plans are not reduced through the implementation of adaptive management in the Delta.[Footnote 3: Nagarkar and Raulund-Rasmussen, An appraisal of adaptive management planning and implementation in ecological restoration: case studies from the San Francisco Bay Delta, USA, 2016 (Exhibit 4) [Attachment 4].] The lack of discussion regarding the efficacy of the compensatory mitigation is concerning. The DEIR is already shouldering the County with accepting the future impacts of	uncertainties, such as the north Delta diversions and CMP habitat restoration. Please see response to comment 552-61 regarding further information on how the project addresses uncertainty. Note that CEQA does not mandate that the monitoring program incorporates adaptive management. It is also important to note that applicable impacts identified in the EIR are reduced to less than significant without incorporation of adaptive management. The CMP is based on anticipated mitigation needs for the proposed alternatives as presented in the EIR. The final compensatory habitat mitigation needs for the project will be determined once all regulatory permits and approvals are secured. The CMP is of sufficient detail to meet the requirements of CEQA. It is anticipated that additional design and management planning, including more detailed performance standards, monitoring methods, and adaptive management actions, would be refined through the permitting process and prior to project approval and project initiation. The comment asserting significant challenges for meeting targets and avoiding impacts is not fully supported by the cited exhibit (Callaway et al. 2011), which reviewed the evolution and improvement of tidal wetland restoration since the 1970s. While acknowledging the challenge posed by invasive species, Callaway et al. nevertheless recommended restoring sites sooner than later. The comment asserting that implementation of adaptive management does not reduce the impacts of "the poorly developed restoration and other compensatory mitigation plans" is not supported by the cited exhibit. Nagarkar and Raulund-Rasmussen (2016) did not assess the ecological success or environmental impacts of these eight unspecified tidal marsh restoration projects (only 2 had been completed, the rest were in planning

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	compensatory mitigation. However, the DEIR fails to indicate that those impacts would be the result of appropriate and effective mitigation. The DEIR must be revised to include discussion of the uncertainties involved with the compensatory mitigation program, especially at sites in the North Delta Arc that have not been adequately identified.[Footnote 4: Additional information regarding the failure to adequately disclose uncertainties in the DEIR can be found in the Delta Independent Science Board comments on the DEIR, available at: https://deltacouncil.ca.gov/delta-isb/meetings (Dec. 8, 2022 meeting, item 4).]	or under construction), rather they assessed only the content of the adaptive management plans prepared for those projects (i.e., did those plans include planning elements of adaptive management). The authors acknowledged it was too early to evaluate the actual performance of the sites or the practice of adaptive management, which has grown more robust since 2016. All mitigation measures will be implemented according to a Mitigation Monitoring and Reporting Program included with the EIR to ensure that significant impacts are reduced to less-than-significant levels as disclosed in the EIR. Please also refer Common Response 1 regarding the CMP level of detail and future development and implementation of portions of this plan.
552-12	4. The DEIR Should Implement the Delta Plan's Good Neighbor Checklist for Restoration Projects in the Compensatory Mitigation Plan. While the project would entail extensive restoration in order to mitigate the project's extensive impacts on special-status species and aquatic resources, the DEIR fails to include any information as to the effects of such restoration on neighboring lands. The DEIR, including the Compensatory Mitigation Plan in Appendix 3F, also fails to include information regarding measures to reduce or eliminate impacts on neighboring land and water uses. In 2020, several Delta Stakeholders worked with DWR to update the Good Neighbor Checklist.[Footnote 5: The Good Neighbor Checklist can be accessed at https://deltacouncil.ca.gov/pdf/delta-plan/2022-07-15-good-neighbor-checklist.pdf (Exhibit 5 [Attachment 5]).] The checklist is included in Appendix Q2 of the June 2022 Ecosystem Amendment to the Delta Plan. The Good Neighbor	The comment requests that the EIR include analysis of how compensatory mitigation would follow the Good Neighbor Checklist from the 2022 Delta Plan Ecosystem Amendment. As acknowledged by the commenter, the Good Neighbor Checklist is a Delta Plan recommendation and not a policy. As noted in Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources, DWR will consider effects on neighboring properties, as per the 2018 Good Neighbor Checklist. Once the proposed Delta Plan Ecosystem Amendment is approved, DWR will consider the updated 2022 checklist as well. Impacts of implementation of the CMP on resources are analyzed throughout the EIR, including those related to neighboring properties. See, for example, the discussions of impacts on traffic and water quality. Appendix 3F has been revised in some sections. Buffer zones would be created between habitat preserves and farmland. Regarding potential groundwater seepage onto adjacent lands, a revision was made to Appendix 3F in the section titled Performance Standards and Monitoring to clarify the description of monitoring and mitigation of seepage of nuisance water onto adjacent lands from constructed tidal wetlands. Clarification

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	Checklist provides that "Coordination with neighboring landowners and local communities helps covered actions avoid unintended consequences like trespassing, property damage, crop damage, wildlife hazards to aircraft, or damage to the ecosystem. Consequently, the Delta Plan recommends that restoration projects use the Good Neighbor Checklist to avoid or reduce conflicts with existing uses." (Delta Plan, Appendix Q2, p. Q2-14.) This statement aligns with the purpose of Good Neighbor policies, which is to assist restoration project proponents to limit negative impacts on neighboring private properties and local infrastructure. Although the Checklist is not required, it can help reduce or eliminate impacts of restoration projects on neighboring land and water resources through appropriate planning. (2022 Delta Plan Amendment, Appendix Q2, p. Q2-15.) Additionally, the DCP would be a covered action under the Delta Plan. Therefore, DWR would be required to provide a consistency determination as part of the permitting process. (DEIR, p. 3E-1.) As part of that consistency determination, DWR should demonstrate that it considered the Good Neighbor Checklist in developing the restoration that will serve as mitigation for the project. The County requests that prior to making a consistency determination, DWR update the DEIR to include an analysis of how restoration carried out as part of the project or its mitigation would follow the Good Neighbor Checklist.	was also added to Chapter 8, Groundwater, to cross-reference the revisions made to Appendix 3F. None of the revisions described in the EIR resulted in a new significant environmental impact or substantial increase in the severity of an environmental impact or required additional mitigation measures to which DWR was unwilling to commit. Please see Common Response 11, Terrestrial Biological Resources and Compensatory Mitigation Plan, regarding subsequent CEQA analyses for tidal and channel margin habitat. Common Response 11 also addresses the level of specificity in Appendix 3F. The mitigation approaches are described in sufficient detail to meet the requirements of CEQA. It is anticipated that additional design and management planning, including more detailed performance standards, monitoring methods, and adaptive management actions, would be refined through the permitting process and prior to project approval and initiation. Please also refer to Appendix 3E, Delta Reform Act Considerations, regarding the Delta Plan consistency certification process and information provided in the EIR relevant to consistency with Delta Plan policies. Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, also discusses the project's consistency with the Delta Plan. Finally, Common Response 7, Implementation Considerations, describes the three distinct but complementary processes DWR has developed to address effects within local communities during implementation.
552-13	THE DEIR'S DISCUSSION OF TRANSPORTATION IMPACTS IS INADEQUATE 1. The DEIR Determination for the Number of Workers Commuting from Solano County Is Not Supported by	The assertion that the EIR does not adequately consider and analyze transportation related impacts such as vehicle miles traveled (VMT) is not consistent with the EIR. The number of construction workers from Solano County was developed

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	Substantial Evidence The DEIR fails as an informational document because it does not discuss impacts to Solano County due to increased vehicle miles traveled ("VMT") during the project's extensive construction period. The DEIR states that Yolo and Solano Counties combined house nearly 23,000 construction workers. (DEIR, p. 20-23.) This makes up approximately 24 percent of the total estimated construction workers available in the Sacramento-San Joaquin Valley. (DEIR, pp. 20-23 - 24.) However, the DEIR assumes a much smaller percentage of these workers would be utilized for the construction of the project. The DEIR fails to provide supporting evidence for the assumption that so few workers would come from Yolo and Solano Counties. For example, there are nearly 23,000 construction workers in the two counties compared to roughly 26,000 in San Joaquin County. (DEIR, p. 20-24.) However, the DEIR assumes that for north Delta construction 40 percent would come from San Joaquin County, while only 10 percent come from both Yolo and Solano Counties. Further, Yolo and Solano County workers are not included in any of the construction located in the south Delta. (Ibid.) This determination was "[b]ased on a combination of the local county labor market information and travel demand model calculations[.]" (Ibid.) Another flaw in the analysis is that the DEIR fails to discuss why the percentage of workers from the various counties would be the same, regardless of alignment choice. (DEIR, p. 20-25.) These assumptions likely skew the average VMT determinations and underestimate the transportation impact from increased VMT.	based on information from the U.S. Bureau of Labor Statistics and the identified need for more construction workers in the San Francisco/San Jose Metro Area (173,000) than residents working in the construction industry (i.e., 143,774 construction workers living in Contra Costa, Alameda, Marin, San Francisco, San Mateo, Santa Clara, and San Benito Counties). Therefore, the need for over 29,000 additional construction workers would be filled by workers traveling from surrounding counties (including San Joaquin, Sacramento, Yolo, and Solano Counties). With the opportunity for well-paying construction jobs that the Delta Conveyance Project would bring to the Sacramento-San Joaquin Valley, it is assumed that a small percentage of construction workers would temporarily relocate to the six counties surrounding the transportation study area. Based on Employment Development Department (EDD) data reported for the Delta region, as described above, more than enough construction workers reside in the vicinity of the transportation study area to accommodate Delta Conveyance Project construction needs. Due to the closer proximity of Solano County (relative to Sacramento and San Joaquin Counties) to the San Francisco Bay Area, the combination of the labor market information and travel demand model determined that 10% of the construction workers would live in Yolo and Solano Counties (Chapter 20, Transportation, section titled Process and Methods of Vehicle Miles Traveled Analysis). Please see Common Response 14, Transportation, and the methodology of quantifying Senate Bill 743 home-based work Vehicle Miles Traveled (VMT) and the threshold of significance used to develop Mitigation Measure TRANS-1. The purpose of using the same percentage of where construction workers are assumed to live based on a combination of the local county labor

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		market information and travel demand model calculations for project facilities located in the north Delta or the south Delta was to enable a comparison in the amount of project-generated VMT among the project alternatives. Even with the inclusion of proposed construction management and design requirements to reduce effects on the community from construction-related traffic on Delta roadways from the Delta Conveyance Engineering Project Reports (Delta Conveyance Design and Construction Authority 2022a, 2022b), the results of the VMT analysis determined that construction of the project alternatives would result in additional VMT to the regional transportation system and increase the total amount of driving and distances traveled for home-based work trips.
552-14	2. The DEIR Fails to Analyze Potential Transportation Impacts in Solano County The DEIR also fails to substantiate the DEIR's assumption that, "No construction traffic would be allowed within Solano County except for on I-80 and SR 12 in Solano County (between I-80 and the Sacramento River), or for individuals or vehicles traveling from homes or business in Solano County." (DEIR, p. 20-29.) However, the DEIR lacks any explanation of how this limitation would be utilized or enforced. This strategy may not be reasonably enforced for any construction related traffic excepting heavy hauling/trucking, which is already forbidden on county roads without proper permitting. Regarding State Route ("SR") 12, Rio Vista Park and Ride Lot is proposed in Rio Vista for Alternatives 1 and 2 (DEIR, p. 20-32). This will increase traffic accessing the SR 12 bridge or ferry, which may result in increased traffic and emergency access delays for residents in Rio Vista and Solano County. Rio Vista is a Delta legacy community which is to be protected, maintained, and	The example included by the commenter of no construction traffic would be allowed within Solano County except on I-80 and SR 12 in Solano County (between I-80 and the Sacramento River), or for individuals or vehicles traveling from homes or businesses in Solano County is part of the project description documented in the Delta Conveyance Engineering Project Reports (Delta Conveyance Design and Construction Authority 2022a, 2022b). DWR will be required to adhere to these commitments during construction of the project as they are included as part of the project description and/or as mitigation measures to be captured in the Mitigation. Monitoring and Reporting Program (MMRP). DWR will require the contractor to comply with each condition in order to reduce potential effects on Delta communities. These types of conditions are regularly used on construction projects, including those completed by the State of California. DWR is committed to enforcing these provisions. A combination of transportation management plans (described in Mitigation Measure TRANS-1) and improvements to the transportation system would be developed in coordination with the Division of Public Works to reduce potential traffic safety hazards at key intersections and

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	preserved.	emergency access to Rio Vista from SR 12 and other key locations within Solano County.
552-15	Further, the DEIR states that Yolo and Solano County construction employees would drive to work sites, but when calculating the regional average VMT, the DEIR excludes both counties. (DEIR, p. 20-27.) These unsupported assumptions indicate that the DEIR fails to identify or analyze potential transportation impacts in Solano County. The DEIR also fails to consider rerouting of traffic to avoid construction delays (bridge openings, congestion, detours, etc.). County road alternatives to major commuter routes are not designed for heavy cut through traffic. Rerouting and detouring will cause increased VMT by commuters separate from project construction employees.	The regional average per construction employee VMT threshold used in the DEIR is 22.5, as discussed in Chapter 20, Transportation, section title Thresholds of Significance. This threshold includes traffic from counties in which the physical construction footprint would occur. This is consistent with standard practice where regional VMT thresholds are calculated based on the location of individual project sites. Because no portion of the physical construction footprint is located in Yolo or Solano County, the regional average VMT for those counties was not incorporated into the VMT threshold of 22.5 used in the EIR. Revising the threshold to include Yolo and Solano counties would marginally decrease the regional average per construction employee VMT threshold from 22.5 to 22.4 miles. Lowering the threshold by 0.1 miles per employee would not change the adequacy of the performance standard for Mitigation Measure TRANS-1 (25% of construction workers would need to carpool to offset the project alternatives' projected increase in regional VMT), which if achieved would reduce average construction employee VMT for all project alternatives to below 22.4. Thus, the inclusion of Yolo and Solano counties in the VMT threshold would not result in a new significant environmental impact or substantial increase in the severity of an environmental impact or required additional mitigation measures to which DWR was unwilling to commit. While the VMT threshold is exclusive to the physical construction area, the calculation of project VMT includes employees from Yolo and Solano counties. The construction employee home-based work VMT was based on the total distance from the workers' home (e.g., Vallejo, Fairfield, Suisun City, Vacaville) to and from the work site or corresponding park-and-ride facilities and is independent of the regional VMT. The Draft EIR regional average VMT of 22.5 miles per day for all types of employees (i.e., office, retail, industrial, construction) was used to

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		determine the CEQA conclusion that construction of the project alternatives would result in additional VMT to the regional transportation system and increase the total amount of driving and distances traveled for home-based work trips when compared to the regional average of 22.5 miles per day. As noted above, lowering this threshold to 22.4 miles per day would not change the Draft EIR impact conclusion for Impact TRANS-1. The Delta Conveyance Engineering Project Reports (Delta Conveyance Design and Construction Authority 2022a, 2022b) include proposed construction management and design requirements to reduce effects on the community from construction-related traffic on Delta roadways. These limitations are intended to enhance public safety and reduce traffic congestion during construction. These types of conditions are regularly used on construction projects, including those completed by the State of California. DWR is committed to enforcing these provisions. In addition, the combination of transportation management plans (described in Mitigation Measure TRANS-1) and improvements to the transportation system would be developed to reduce cut through traffic on delta communities.
552-16	Additionally, the County's [Solano County] General Plan (not included in Appendix 3C with other general plans) identifies many local roads as routes of regional significance as connections between cities, freeways, and the agricultural lands of the Delta. The General Plan defines "Routes of Regional Significance" as: [A] key roadway that meets most of the following criteria: it has significant traffic volume, it provides an important connection between cities and/or freeways and highways, it provides regional as well as local benefit, it serves as a frontage road or as a reliever route providing an alternative to the use	The County's General Plan was reviewed, including the Routes of Regional Significance and was added to Appendix 3C, Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions. Adding the County's General Plan does not change the Draft EIR impact analysis methodology, findings and CEQA conclusions. The commenter's claim that the Draft EIR fails to analyze whether the project's VMT would impact transportation and agricultural operations in Solano County is not consistent with the CEQA impact analysis and mitigation measures in Chapter 20, Transportation. The Draft EIR analyzed Vehicle Miles Traveled as required by CEQA

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	of freeways and highways as a connection between cities, it provides access to significant job concentrations and transit centers in Solano County, it provides an improved emergency response route. (Solano County General Plan, p. TC-11.)[Footnote 6: Solano County General Plan can be found at: https://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6497] The roadways that would be impacted by the project are irreplaceable transportation arteries for moving agricultural goods from farms to processing facilities and markets. Further, many of these roads connect Solano County cities located on Highway 80 with those cities and towns off of state highways 12, 160, and 113. The DEIR states, "Project-related heavy construction traffic on local roadways during the construction period would increase the potential for safety hazards such as conflicts with commuter traffic, recreational vehicles, and seasonal farming operations." (DEIR, pp. 20-52 –53.) However, the DEIR fails to analyze whether the project's significant VMT impacts (DEIR, p. 20-1) would impact transportation and agricultural operations in Solano County. This should have been analyzed under Impact TRANS-2, as it is a potential conflict with Solano County's General Plan. Due to the omission of analysis of transportation impacts in Solano County, the DEIR likely underestimates the project's transportation impacts.	Guidelines Section 15064.3, enacted pursuant to Senate Bill 743 and included all roadways that construction employees automobiles and construction employees trucks (i.e., pickup and work trucks) would use based on the Delta Conveyance Engineering Project Reports (Delta Conveyance Design and Construction Authority 2022a, 2022b), as shown in the figure titled Transportation Study Area for the Delta Conveyance Project Alternatives, including Caltrans facilities in Solano County (SR 12, SR 113, I-80, and SR 84) and major roadways in Solano County similar to Peabody Road, Air Base Parkway and N. Texas Street. The Impact TRANS-2 analysis, which includes consideration of Solano County, determined that construction of all project alternatives would not substantially conflict with current applicable transportation system programs, plans, or ordinances as they pertain to land use (population and employment), multimodal transportation (transit, bicycle, and pedestrian), and goods movement (trucks, rail, and marine), from the following regional councils of government: SACOG, SJCOG, or Metropolitan Transportation Commission (MTC). Overall, the impact was determined to be less-than-significant. Even though Level of Service (LOS) is no longer the primary analysis criteria for the CEQA document, Appendix 20A, Delta Conveyance 2020 Traffic Analysis, and 20C, Delta Conveyance 2040 Traffic Analysis, were completed to aid in the understanding of potential major increases to traffic volumes on roadways segments on SR 12, SR 113, I-80 and SR 84 with the addition of project-generated construction traffic. This LOS analysis included both passenger vehicles and construction trucks, and the results of the existing with project alternatives analysis and 2040 with project alternatives did not identify a change in the ability of these roadways to serve local, regional, and project-generated traffic volumes. Please refer to Common Response 14, Transportation, for additional

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		discussion on the roadway segment and intersection level of service analysis used in the Draft EIR.
552-17	Additionally, the DEIR fails to disclose potential impacts to the operations of Travis Air Force Base ("AFB") from increased traffic in Solano County as a result of the= project. Travis AFB is a federally-designated strategic facility for the nation's defense system, [Footnote 7: Travis AFB Sustainability Study can be found at: https://oldcc.gov/sites/default/files/mis-studies/Travis%20Air%20Force%20Base.pdf] located just north of SR 12 and several local roads such as Air Base Parkway, Walters Road and Peabody Road provide access to SR 12 from Fairfield and Vacaville. Although the DEIR mentioned Travis AFB as an Air Transportation Facility located within the vicinity of the project's study area (DEIR, p. 20-19 [Figure 20-5]), the DEIR did not assess potential impacts on Travis AFB due to its distance from the construction areas. As such, the DEIR contends that the project alternatives would not affect air travel because none of the project facilities or 26 construction activities would result in changes to air traffic or take-off or landing conditions (DEIR, p. 20-46.) However, the DEIR did not evaluate the potential impact of additional traffic and congestion on roads surrounding Travis AFB. On page 20C-4, the DEIR evaluated potential impacts to Caltrans roadways in 2040 with No Project Alternative conditions in Solano County area. Page 20C-18 indicated "The following Caltrans segments were identified as projected to operate below acceptable [level of service ("LOS")] standards under both 2040 No Project Alternative and 2040 with project alternatives": • I-80 EB—Suisun Valley Road to SR 12 (2040 No Project Alternative and 2040 with project alternatives).	The Draft EIR evaluated the potential impact of additional traffic on freeways, highways, and roadways in Solano County, including the roadways surrounding Travis Air Force Base. Please refer to Common Response 14, Transportation, for additional discussion on the roadway segment and intersection level of service analysis used in the EIR. With less than 5% of project-generated traffic (cars and trucks) using Interstate 80 and SR 12, to and from sites in the north Delta (Sacramento County) and south Delta (San Joaquin County), construction of the project alternatives would not impact access to and operations of Travis Air Force Base. A combination of transportation management plans (described in Mitigation Measure TRANS-1) and improvements to the transportation system would be developed in coordination with the State of California and Solano County Division of Public Works to reduce potential traffic safety hazards at key intersections and emergency access serving Travis Air Force Base.

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	• I-80 WB—SR 12 to Suisun Valley Road (2040 No Project Alternative and 2040 with project alternatives). • SR 12—Sunset Avenue/Grizzly Island Road to Walters Road/Lawler Ranch Pkwy (2040 No Project Alternative and 2040 with project alternatives). • SR 12—Walters Road/Lawler Ranch Pkwy to SR 113 (2040 No Project Alternative and 2040 with project alternatives). • SR 12—SR 113 to SR 84 (2040 No Project Alternative and 2040 with project alternatives). • SR 12—SR 84 to SR 160 (2040 No Project Alternative and 2040 with project alternatives). The DEIR evaluated changes in traffic associated with construction-related work in areas east of Solano County; however, due to the extended proposed 14–16-year construction period (DEIR, p. 17A-1), local traffic (commuters, farming operations, and recreational users) may use alternative routes around the central Delta construction area, which may result in more traffic and congestion on SR 12, I-80, and local roads through Solano County. Any additional congestion on Solano County roads and highways may impact operations at Travis AFB; this potential impact should be discussed in the DEIR.	
552-18	C. THE PROJECT WOULD RESULT IN NEGATIVE ECONOMIC IMPACTS IN SOLANO COUNTY Solano County creates gross value in agricultural production of more than $400 million a year. (2021 Solano County Crop and Livestock Report, Exhibit 6, p. 4. [Footnote 8: See also Delta Protection Commission, The State of the Delta Agriculture: Economic Impact, Conservation and Trends, p. 17. Available at: https://delta.ca.gov/wpcontent/uploads/2020/07/Ag-ESP-	Potential economic effects related to agriculture, land use, and transportation, as well as environmental impacts of restoration, are all described in the EIR. Therefore, it does not follow that recirculation is necessary based on the assertions in this comment. The compensatory mitigation plan, including future tidal restoration that could occur in the Cache Slough region, are discussed in Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources, section titled Tidal Habitat Mitigation Framework. Restoration

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	update-agricultural-trends-FINAL-508.pdf)]. The Cache Slough Region, which is located within the North Delta Arc, creates more than $42 million in direct and indirect agricultural value. [Footnote 9: Economic Effects of Solano County Agriculture: Baseline Assessment and Cache Slough Case Study, p. 19 (Exhibit 7) [Attachment 7].] Additionally, the region's agriculture provides thousands of jobs and creates millions of dollars of indirect benefits throughout the region. (Id. at p. 12.) Project impacts from placement of restoration mitigation, along with transportation impacts during construction, would result in negative economic impacts in Solano County. If a project's physical changes to the environment cause an economic or social impact, these impacts may be used to determine the significance of the physical change. (CEQA Guidelines, § 15131, subd. (b); see also Christward Ministry v. Superior Court (1986) 184 Cal.App.3d 180, 197.) As described above [comments 14-17], the DEIR failed to properly identify impacts to Solano County from increased vehicular traffic and additional conversion of land to restoration land uses, which are required as mitigation for project impacts. Additionally, the loss of agricultural land creates impacts to other aspects of regional agricultural operations, too. Fewer acres of farmable land generally result in lower production. Lower production puts additional pressure on the agricultural support industry, such as processing facilities, agricultural trucking, and other support businesses. Because economic impacts to agriculture, land use, and transportation due to transportation and restoration impacts were not disclosed or mitigated in the current= DEIR, the DEIR must be revised and recirculated to disclose, evaluate, and	sites will be selected and designed to avoid human disturbance. Therefore, there would not be any anticipated associated socioeconomic effects. Please refer to response to comment 552-11 regarding information about the implementation of restoration mitigation and response to comment 552-3 to 552-6 regarding how potential impacts resulting from the implementation of the Compensatory Mitigation Plan are evaluated throughout the EIR. Other economic effects described in this comment are also included in the EIR. ECON-6 in Chapter 17, Socioeconomics, identifies economic effects associated with both lands converted from agriculture and transportation disruptions to the agricultural industry. Both reduction in agricultural acreage and reduction in value of production are reported in ECON-6 for the Delta region, which includes Solano County. The section Delta Regional Employment and Income explains that analyzing the counties as a group provides a better illustration of potential employment and income effects than analyzing each individually. ECON-1 uses the estimated reduction in agricultural production value to estimate employment effects to the agricultural industry. This includes direct employment effects, indirect effects, and induced effects. Induced employment effects capture the effects on industries that support agriculture.

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	mitigate these impacts. (CEQA Guidelines, § 15088.5; Laurel Heights Improvement Assn. of San Francisco, Inc. v. Regents of the Univ. of Cal. (1993) 6 Cal.4th 1112, 1130.)	
552-19	D. THE DEIR FAILS TO CONSIDER OTHER AGRICULTURAL IMPACTS In addition to the agricultural impacts that would occur from restoration activities, transportation, and economic impacts, the DEIR fails to consider other direct impacts to Solano County agriculture. The DEIR states, "The study area is described in the following sections to support later discussions of environmental consequences associated with potential agricultural land use changes resulting from the temporary and permanent footprints of disturbance associated with construction of project water conveyance and related facilities and buildout of compensatory mitigation habitat sites, as well as other potential indirect impacts on agricultural resources stemming from the long-term operations and existence of these facilities and compensatory mitigation restoration sites". The DEIR defines the agricultural study area as Alameda, Contra Costa, Sacramento, San Joaquin, and Yolo Counties. (DEIR, p. 15-5.) Thus, the DEIR simply excludes Solano County from the study area. However, Solano County agricultural producers farm Ryer Island, Montezuma Hills, and Maine Prairie, all of which divert water from the Delta for agricultural purposes. The project would result in decreased outflows from the Delta, which would allow higher salinity levels to intrude further into the Delta. (See DEIR, pp. 9-14 and 15C-51.) Increases in salinity can reduce agricultural productivity by altering the quality of irrigation water. (DEIR, p. 15C-4.) Therefore, increases in salinity and other water quality impacts	The comment assertions that the EIR did not consider effects to Solano County agriculture are not supported by the analyses contained in Chapter 15, Agricultural Resources. The study area for Chapter 15 matches the project area identified in Chapter 1, Introduction. The study area consists of the statutory Delta and certain areas immediately adjacent to the Delta. Besides Solano County, five counties lie partially within the statutory Delta: Alameda, Contra Costa, Sacramento, San Joaquin, and Yolo. The EIR evaluates the ability of project operations to protect agricultural beneficial uses based on adherence to State Water Resources Control Board Water Right Decision 1641 (D-1641) water quality standards, which include salinity standards the State Water Board determined as adequate to protect agricultural beneficial uses. Please refer to Chapter 9, Water Quality, which concludes that while there could be some increases in salinity (based on modeled electrical conductivity) at some locations in some months, these effects would be less than significant as they still meet D-1641 water quality standards. Additionally, as discussed in Appendix 9L, Water Quality 2040 Analysis, climate change and sea level rise are primary drivers of water quality changes, including salinity levels, in the study area during the timeframe for when the project would become operational. Changes to the Study Area section of Chapter 15 have been made to clarify that a portion of Solano County is located within the study area for Chapter 15.

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	caused by the project would negatively impact Solano County agricultural operations. Failing to include these geographic areas in the analysis results in an informationally deficient document that fails to apprise the public of the potential environmental impacts that would occur as a result of the project.	
552-20	E. THE DEIR FAILS TO PROPERLY ANALYZE GROUNDWATER IMPACTS Many local communities in Solano County, such as Rio Vista, are completely reliant on groundwater. Several state small water systems in Solano County are also located within the study area. DEIR Impact AG-3 does not identify the impact of groundwater elevation changes on these state small water systems. Any mobilization of contaminants due to the project's activities has the potential to impact local communities' water supplies.	Groundwater elevation changes and corresponding impacts on water supplies are discussed in Chapter 8, Groundwater, under Impact GW-2, Impact GW-3, and Impact GW-7. The impacts were found to be less than significant under all project alternatives for the three groundwater impacts related to groundwater supply and groundwater quality. Please see Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, which describes that the movement of existing groundwater plumes is not expected to occur during construction or operation and the Delta Conveyance Project.
552-21	The DEIR indicated a "new" groundwater-surface water model ("DeltaGW Model") [Footnote 10: DEIR section 8.3.1.1] was used to evaluate the effects of long-term operations of the water conveyance facilities associated with the project. However, the DeltaGW Model was not used to evaluate construction impacts, which were only evaluated qualitatively. The DEIR states that a qualitative analysis was pursued because there is a "lack of an available analytical tool at the spatial scale required for the site-specific quantitative analysis." (DEIR, p. 8-13.) Due to the scale of the project as well as the proposed decade-plus of construction, a qualitative evaluation is insufficient for decisionmakers and the public to fully understand the potential impacts on agriculture, domestic wells, and groundwater-	The Delta Conveyance Project EIR has been prepared in compliance with CEQA and evaluates the full range of potential impacts that may result from construction and operation of the proposed project and its alternatives. As described in Chapter 8, Groundwater, in the section titled Methods of Analysis, the Delta Conveyance Project construction and maintenance related effects were evaluated qualitatively. The evaluations are based on existing groundwater conditions and hydrogeology and anticipated changes in groundwater elevations, storage, and quality from the construction methods and protocols described in the Engineering Project Reports (Delta Conveyance Design and Construction Authority 2022a, 2022b). Operational impacts on groundwater resources in the Delta and adjacent groundwater basins are evaluated using the Delta Groundwater Model. As disclosed in Chapter 8, in Impacts GW-1, GW-2, and GW-3, construction-related dewatering would not result in a significant impact on groundwater storage or wells. Mitigation Measure GW-1 would

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	dependent ecosystems. This is troubling because DWR is one of two state agencies that oversee implementation of the Sustainable Groundwater Management Act ("SGMA"). The lack of quantitative analysis may undermine local efforts to reach sustainable levels in the subbasins within which the project would occur.	further reduce less-than-significant impacts and allows DWR to monitor and address unanticipated changes in groundwater levels. Please refer to Common Response 10, Surface Water Quality and Groundwater Resources, regarding the suitability of the DeltaGW model for analysis of local impacts on groundwater. Specifically, see the section that discusses model resolution and representation of local surface water features.
552-22	Additionally, the DEIR fails to analyze whether the construction and operation of the project would interfere with various Groundwater Sustainability Agencies' ("GSA") ability to implement their Groundwater Sustainability Plans ("GSP") in a sustainable manner pursuant to SGMA. In areas that are required to develop GSPs, those GSPs must also consider the potential impacts on groundwater-dependent ecosystems ("GDE"). The DEIR does not provide an analysis of the project's impacts to GDEs. Further, it is unclear how the project's dewatering and use of surface waters would allow GSAs to reach their statutorily-required sustainability targets. Project construction zones would occur over medium, high, and critically overdrafted groundwater basins for more than a decade, making the analysis of groundwater impacts all the more important. (DEIR, p. 8-8 [Figure 8-2].)	Please refer to Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding consideration of groundwater sustainability plans. As described in Common Response 8, the groundwater analysis contained in Chapter 8, Groundwater, found groundwater impacts to be less than significant and the project would not interfere with implementation of groundwater sustainability plans. GDEs in the context of SGMA are further discussed under Common Response 8. Chapter 13, Terrestrial Biological Resources, particularly under Impacts BIO-4 through BIO-8 and Impact BIO-51, discusses wetlands and other types of habitat and natural communities related to GDEs. Impacts on all terrestrial biological resources were found to be less than significant or less than significant with mitigation.
552-23	Last, the DEIR uses a significance threshold of a 20-foot decline to determine whether wells would be negatively impacted. (DEIR, p. 8-19.) The DEIR states, "The 20- foot groundwater decline threshold for supply wells is deemed to be a conservative estimate for depletion of groundwater supplies because it is less than 10% of the average depth of supply wells in the statutory Delta." (Ibid.) First, this analysis fails to consider numerous types of domestic wells that are found throughout the Delta. These wells include artesian wells and	As described in Chapter 8, Groundwater, under Impact GW-3, the exact location of wells in the OSWCR database are not known, and only the PLSS section number of wells is included. As a result, DeltaGW Model results were evaluated at the centroid of each PLSS section to determine the total number of supply wells that could be affected by project operations due a decline in groundwater elevations when comparing the simulated groundwater levels of alternatives with the existing conditions. The chapter 8 figure titled PLSS Sections with Supply Wells Within 3 Miles of the Delta Region shows the spatial coverage of supply wells considered in the impact

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	wells drilled prior to 1977. Therefore, the average depth of supply wells is likely overestimated. Second, the DEIR's use of a 10 percent depletion of groundwater appears to be arbitrary and disregards potential impacts to shallower wells. The DEIR states that it used 3,565 production wells to determine that the wells have a median depth of 190 feet and an average depth of 211 feet. (DEIR, p. 8B-19.) The DEIR then bases its significance threshold on a 20-foot decline in groundwater levels. (Ibid.) However, this disregards the fact that "Wells were generally shallow, with the majority of wells less than 200 feet." (DEIR, p. 8A-16; 8A-18 ["the majority of wells and groundwater levels within the Delta region occur within the top 200 feet."].) Therefore, it is likely that numerous wells are much shallower than the average depth of 211 feet. The DEIR has disregarded the potentially significant impacts to these shallower wells by relying on a 20-foot decline threshold for Impact GW-3. This omission results in an informational deficiency that keeps local well users in the dark about the potential impacts the project could create.	analysis. Potential impacts on any wells in the project area are described under Impact GW-3 and summarized in the Chapter 8 table titled Number of Supply Wells with Decline in Groundwater Elevations Relative to Existing Conditions. The section titled Alternatives Impacts in Appendix 8B details the groundwater changes expected at supply wells under each alternative. As described in Impact GW-3, the greatest decline in groundwater elevations relative to existing conditions is 2–3 feet at any well in the region. While wells installed before 1977 were not included in the analysis, the potential impacts across the entire region are covered by through the spatial coverage of wells installed after 1977, as shown in the figure titled PLSS Sections with Supply Wells Within 3 Miles of the Delta Region in Chapter 8. Please refer to Common Response 10, Surface Water Quality and Groundwater Resources, regarding the suitability of the analysis of local impacts on groundwater. Specifically, see the section that discusses the inclusion of local wells in the modeling analysis.
552-24	F. THE DEIR FAILS TO DISCLOSE THE PROJECT'S IMAPCTS ON FISHERIES The County [Solano County] is concerned that the DEIR is deficient in its analysis of the effects of operation of two large new intakes on the Sacramento River. Additional threats to Delta fisheries from DWR diversions may also negatively affect other water uses within the Delta. It is therefore essential that the DEIR fully disclose, and mitigate to the extent feasible, impacts to fisheries. The County retained Bruce Herbold, Ph.D, to assist in its review of the DEIR for this purpose. [Footnote 11: The County requests that DWR also provide responses to the report provided by Bruce Herbold, Ph.D (Exhibit 8	Please see responses to detailed comments, including those of Bruce Herbold, in responses to fisheries-related issues in comments 552-25, 552-26, 552-27, 552-28, 552-29, 552-43, 552-45, 552-64, 552-69, 552-70, 552-71, 552-72, and 552-75.

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	[Attachment 8]).] As described below, DWR has failed to adequately disclose project impacts to fisheries.	
552-25	1. The Pulse Protection Criteria Is Inadequate for Several Runs of Salmon and Other Species The DEIR states that pulse protection criteria would allow low-level pumping of up to 6% of the Sacramento River flows at Freeport, but cannot exceed 900 cfs of diversions by all intakes combined. (DEIR, p. 3-150.) Additionally, "North Delta Diversion levels at all the intakes will be subject to a maximum approach velocity of 0.2 feet per second and a minimum sweeping velocity of 0.4 feet per second at the proposed fish screens. Velocity compliance would be informed by real-time hydrological data measured at the intake locations." (Ibid.) However, the pulse protection criteria would only occur twice, once between October and November and again between December and June. (Ibid.) "[T]he two pulse flow criteria are clearly aimed at protection of winter-run outmigrants. But spring-run salmon outmigration is triggered by flows on the Deer and Mill creeks, thus requiring additional pulse flow protections." (Herbold comments, Exhibit 8 [Attachment 8], p. 7.)	In addition to pulse protection and approach/sweeping velocity criteria mentioned in the comment, the proposed operations criteria include bypass flows to limit the potential for negative effects to salmon and other species, as described in Chapter 3 of the EIR. Hydrodynamic effects are analyzed in the EIR based on DSM2-HYDRO (see, for example, the Hydrodynamic Effects section of Impact AQUA-2 in Chapter 12, Fish and Aquatic Resources). Results indicate limited potential for effects in the interior Delta/south Delta. However, the potential for negative effects in the north Delta as a result of north Delta intake operations is acknowledged and specific provisions of mitigation to address these hydrodynamic effects are proposed (i.e., Mitigation Measure CMP, specifically CMP-25).As also described in Chapter 3, real-time considerations related to fish are part of potential north Delta operational responses to be considered through the adaptive management and monitoring approach, including transitioning between bypass criteria levels (e.g., Level 1 to Level 2); or adjusting planned diversions to a level consistent with low concern based on flow-survival estimates and fish presence (i.e., more or less restrictive operations based on hydrological, biological, and diurnal conditions). Please also see the discussion of operational criteria refinements considerations provided in Common Response 3, Alternatives Development and Description.
552-26	Additionally, the fall-run Chinook salmon and Central Valley steelhead also require pulse protection at different times of the year. (Ibid.) Therefore, to properly protect all four salmon runs, intake operations would likely need to be restricted for at least a couple of months a year. (Id. At p. 8; see also id. At p. 10 ["Thermal and hydrodynamic processes, as well as seasonal and life cycle variations, would likely place fish of concern at the screen in most months"].) Additional criteria should be implemented for the tunnel's operation. For example, the	Please see response to comment 552-25 regarding relevant operational criteria, mitigation, and real-time considerations relevant to all salmonids. Consistent with the comment's suggestion, intake operations are restricted throughout the juvenile salmonid season and indeed throughout the year (see Chapter 3, Description of the Proposed Project and Alternatives, for description of bypass flow criteria as well as other operational criteria for the north Delta diversions). Consistent with the comment's suggestion and as described in Chapter 3, diversions would be subject to a minimum sweeping velocity of 0.4 feet per second to help minimize near-field effects

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	project should be confined to operations during falling tides, which would reduce travel time across the fish screens, or implementation of an adaptive management plan. Presently, the description of project operations does not include these requirements. Without quantifiable export targets, the DCP would likely be operated to convey as much water as possible, which would degrade water quality and fisheries. (Ibid.)	of the intake operations; this is analogous to operations on falling tides given that the sweeping velocity is in a downstream direction. Also consistent with the comment's suggestion, there would be implementation of an adaptive management and monitoring program, as described in Chapter 3. Please also see the discussion of the Operations Adaptive Management and Monitoring Plan in Common Response 3, Alternatives Development and Description. The comment's suggestion that the project alternatives would likely be operated to convey as much water as possible, which would degrade water quality and fisheries, is not supported by evidence and is contrary to the purpose and project objectives described in Chapter 2, Purpose and Project Objectives; please see the discussion of CEQA and the scope of alternatives, including project purpose, in Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues.
552-27	2. The Effectiveness of Proposed Fish Screens is Overstated There are several factors regarding the fish screens not considered in the DEIR that would likely negatively impact species. The proposed intakes are downstream of the outside bends of the Sacramento River. This placement is ill-advised because these are areas where larger quantities of fish congregate. (Herbold comments, Exhibit 8 [Attachment 8], p. 12.)	Please refer to response to comment 552-64 regarding details on fish screen effectiveness.
552-28	The selected [intake] locations are also likely to increase fish predation. (Id. At pp. 15-16.) One of the main problems with the location and size of the fish screens is how long any given fish would be exposed to the fish screen. Both the current National Oceanic and Atmospheric Administration (a.k.a. "NMFS") and the Washington State Department of Fish and Wildlife state that juvenile salmonids should not be exposed to fish screens for more than 60 seconds. (Id. At p. 16.) Here, there would be 15 fish screens, each 30-foot long (DEIR, p. 3D-	As the EIR describes in Impact AQUA-2 in Chapter 12, Fish and Aquatic Resources, the location of the intakes reflected recommendations of an inter-agency technical team. The EIR acknowledges the potential for exposure of juvenile salmonids to the fish screen, as suggested in the comment. With respect to screen exposure time, the calculations cited by the comment are made for 0.4 feet per second sweeping velocity, which is the minimum allowable sweeping velocity; as noted in the comment and described in the EIR, diversions would be likely to occur at greater than 0.4 feet per second sweeping velocity. Higher sweeping velocity would give

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	2), and would likely be operated at velocities greater than 0.4 ft/s (DEIR, p. 12-87). As shown in DEIR, Table 12-23, it would likely take more than three minutes for a fish to traverse a single 30-foot screen at a 0.4 ft/s sweeping velocity. (Ibid.) Without the inclusion of intermediate bypasses to allow fish to recover during that time, juvenile salmonids would be required to swim between 7 minutes and 47 minutes to pass a single intake site. (Ibid.) This design would result in increased impingement and negative impacts to salmonids. (Herbold comments, Exhibit 8 [Attachment 8], p. 16.)	less exposure time, as shown for the higher velocity calculations presented in Impact AQUA-2. The fish screens comply with fish agency criteria and the approach velocity of 0.2 feet per second is actually lower than what is required for fry-sized juvenile salmonids (i.e., 0.33 feet per second). The 60 second exposure limit is not applicable when maximum approach velocities are 0.2 feet per second. While the facility is designed as a riverine-type intake, its operation will meet NMFS and CDFW criteria for a tidal or lake environment (i.e. approach velocity of 0.2 feet per second). Screen passage times in the EIR are provided to illustrate the range should fish pass one or all screens, but note that the screens are not one continuous unit, screen manifolds are approximately 7 feet and there are small gaps (approximately 1 foot) between screen units. In addition, the screens are on bank and relative to laboratory studies in confined environments, the fish have considerable additional river channel width to inhabit, away from the screens, as alluded to in Impact AQUA-2 in Chapter 12. The EIR cites specific studies conducted at UC Davis to inform risk of screen contact/injury, with mortality considerations related to predation being informed by several Central Valley studies, which suggest limited potential for negative effects; uncertainty is addressed with fisheries studies as part of adaptive management considerations. Please see also responses to comments 552-64, 552-69, and 552-70 regarding Herbold's comments.
552-29	Additionally, the design of the intakes decreases the benefits to fish. The tee screens used on the Colombia River have been successful at decreasing entrainment. This is the result of a "blunt, conical head of the cylindrical fish screen [that] creates a high-pressure wave in front of the screen that stimulates a flight response in young salmon." (Herbold comments, Exhibit 8 [Attachment 8], p. 16.) The DCP intakes, however, would not contain similar characteristics and therefore are unlikely to achieve the same benefits as seen on the Columbia River. (Id. at p. 17.) Unlike the Columbia River intakes, the DCP intakes would contain 450 feet of fish screens without bypasses,	Please see responses to comments 552-71 and 552-72 regarding Herbold's comments. Please see response to comment 552-28 regarding impingement and predation, as well as gaps between screens and passage of one versus multiple screens. The comment suggests that linkage of multiple screens would result in loss of the majority of hydraulic benefits; this is an area of uncertainty acknowledged in Impact AQUA-2 of Chapter 12, Fish and Aquatic Resources, although note that the original source reference indicated that multiple screen units would have hydraulic benefits when placed in river flow (Coutant 2021:10), as proposed for the north Delta intakes.

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	located very close to the shoreline, and against the sidewall. (Ibid.) By linking 15 fish screens together, the project would lose the majority of the hydraulic benefits seen on the Colombia River. This would result in increased predation and impingement of salmonids.	
552-30	G. THE DEIR FAILED TO INCLUDE A REASONABLE RANGE OF ALTERNATIVES The County submits the expert comments of the Solano County Department of Resource Management engineer Chung-Te "Dick" Tzou, PE ("Tzou comments"). (See Tzou comments, p. 7, Exhibit 9 [Attachment 9]. [Footnote 12: The County requests that DWR also provide responses to the comments provided by Chung-Te "Dick" Tzou, PE (Exhibit 9).]) The Tzou comments demonstrate that several reasonable alternatives are not included in the DEIR. (CEQA Guidelines, § 15126.6, subd. (a).) This includes several Through-Delta Conveyance alternatives that were previously studied and proposed in the past. These alternatives should have been considered with the new information, technology, and science that is now available. Instead, the DEIR chose to eliminate many of these alternatives based on dated studies and conclusions.	Please refer to Common Response 3, Alternatives Development and Description, regarding the development of the reasonable range of potentially feasible alternatives evaluated in the EIR. See also response to comment 552-94 regarding alternatives development. The EIR content and supporting EPR documents do not support the assertion that alternatives and alternatives analysis were selected based on outdated studies or conclusions.
552-31	H. THE DEIR'S CLIMATE CHANGE MODELING IS INACCURATE AND UTILIZES IMPROPER ASSUMPTIONS The Tzou comments show that the DEIR's climate modeling fails to properly consider the likelihood of higher frequency, extreme whether events. (See Tzou comments, Exhibit 9 [Attachment 9].) The DEIR describes these events in the Chapter 30 content, however, that information is not reflected in the CalSim3 modeling. The CalSim3 modeling utilizes assumptions of stationarity (DEIR, B-65), which does not take	Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools, modeled representation of future conditions and climate change, modeled representation of CEQA baseline existing conditions, and climate change assumptions as input into hydrologic model. In addition to providing an overview of the approach DWR took in establishing climate change conditions, which were considered in the evaluation of the environmental impacts disclosed in the EIR, the Common Response also addresses stationarity. The commenter refers to Attachment 9, Tzou comments to support the statement of opinion regarding the various modeling assumptions. The referenced attachment includes 22

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	into account the forecasted additional frequencies of extreme weather events. As discussed in the Herbold Comments, the use of stationarity "should no longer serve as a central, default assumption in water-resource risk assessment and planning." (Herbold comments, Exhibit 8 [Attachment 8], p. 2.) Additionally, the modeling fails to capture the likelihood of fewer smaller precipitation events, which would reduce the opportunity for the DCP to divert flows during the wet season.	specific comments but provides no reference to any specific comment supporting the commenter's opinion. Similarly, Attachment 8, Herbold comments, includes 37 discrete comments, but this comment does not provide reference to any of those to support the commenter's opinion. The comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the Draft EIR, therefore no further response is required.
552-32	The Tzou comments [Attachment 9] also call into question the DEIR's use of statistical-downscaling. DWR's Climate Change Technical Advisory Group concluded in Perspectives and Guidance for Climate Change Analysis Report that "either new statistical methods or, preferably, dynamical downscaling will be needed to address many issues that DWR is likely to face in the future; DWR should design and/or support an inter-comparison of downscaling methods and sources that reflects its particular applications and needs." [Footnote 13: DWR Climate Change Technical Advisory Group, Perspectives and Guidance for Climate Change Analysis can be found at: https://water.ca.gov/-/media/DWR- Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/ClimateProgram-Activities/Files/Reports/Perspectives-Guidance-Climate-Change-Analysis.pdf] Failing to accurately model the impacts of climate change results in an underestimation of impacts that the project would create.	Please see Common Response 9, Hydrologic Modeling and Approach, regarding the use of best available tools (e.g., model assumptions, uncertainties, and limitations) and modeled representation of future conditions and climate change predictions in the EIR. Common Response 9 discusses the use of statistical downscaling in the EIR and specifically the use of the best available downscaled climate projection dataset to support the EIR at the time of the analysis. Common Response 9 also provides information as to why CalSim 3 was selected as the best available tool to model project operations.
552-33	I. CUMULATIVE IMPACTS CEQA requires an EIR to discuss cumulative impacts of the project. (CEQA Guidelines, § 15130.) For an EIR's cumulative impacts analysis to be adequate it must contain a "list of past, present, and probable future projects producing related or	Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the overall approach to the cumulative analysis contained in the EIR and a discussion regarding the CalSim 3 hydrologic modeling and its relationship to cumulative impacts. The Sites Reservoir Project is included on the cumulative project list in Appendix 3C, Defining Existing Conditions, No

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	cumulative impacts, including, if necessary, those projects outside the control of the agency[.]" (CEQA Guidelines, § 15130, subd. (b).) The purpose of a cumulative impacts analysis is to avoid considering projects "in a vacuum" since failure to consider cumulative harm may risk "environmental disaster." (Whitman v. Bd. of Supervisors (1979) 88 Cal.App.3d 397, 408.) Here, the DEIR includes cumulative impact analysis at the end of most resource chapters. However, it fails to include multiple projects that should be included in the analysis. Two obvious projects are the Forecast-Informed Reservoir Operations ("FIRO") in the Yuba and Feather River watersheds, which are upstream of the proposed project and the proposed Sites Reservoir project. [Footnote 14: For additional information regarding these projects see Tzou comments, Exhibit 8 [Attachment 8], pp. 7-8.)] Both of these projects would create changes in surface water availability, water quality, and overall hydrology of the region. However, they are not considered in several of the DEIR's cumulative analyses. Without properly analyzing the cumulative impacts that would occur from the DCP and other regional projects, the DEIR's impact analyses are inaccurate and do not alert the public to the extent of the environmental consequences of the project. (CEQA Guidelines, § 15121.)	Project Alternative, and Cumulative Impact Conditions, and included in each resource cumulative analysis as appropriate in Chapters 7 through 32. FIRO is not considered a cumulative project because it is a potential modification in the operation of existing reservoirs. Furthermore, incorporating reservoir forecasting into a monthly planning model would require USACE to amend their regulatory requirements. In the absence of these regulatory changes there is insufficient basis to incorporate FIRO into a monthly planning model that is used in support of an EIR and attempts to do so would be speculative
552-34	J. CONCLUSION A project of this magnitude has the potential for significant impacts on the region. The DEIR is insufficient to fully address these and therefore must be revised and recirculated once adequate analysis is completed to address the issues as raised in this letter.	The EIR fully evaluates potentially significant impacts in Chapters 7 through 32 of the EIR. As discussed in Volume 2, Chapter 1, Introduction, of the Final EIR, recirculation is not required. Responses to specific concerns raised by the commenter are addressed herein.

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552-35	[ATT 1: Map of North Delta Arc of Native Fishes]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-36	[ATT 2: Maps of Restoration Projects in Solano County.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-37	[ATT 3: Journal article from San Francisco Estuary and Watershed Science 9(3):1-12 by Callaway et al., 2011, titled "Tidal Wetland Restoration in San Francisco Bay: History and Current Issues". URL: http://escholarship.org/uc/item/5dd3n9x3]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter. Please see response to comment 552-11 regarding the efficacy of restoration sites.
552-38	[ATT 4: Journal article from Ecology and Society 21(2):43 by Nagarkar, M., and K. Raulund-Rasmussen, 2016, titled "An appraisal of adaptive management planning and implementation in ecological restoration: case studies from the San Francisco Bay Delta, USA." URL: http://dx.doi.org/10.5751/ES-08521-210243]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter. Please see response to comment 552-11 regarding the efficacy of restoration sites.
552-39	[ATT 5: Good Neighbor Checklist from the Ecosystem Amendment to the Delta Plan.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-40	[ATT 6: 2021 Solano County Crop and Livestock Report.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-41	[ATT 7: Economic Effects of Solano County Agriculture: Baseline Assessment and Cache Slough Case Study from Agricultural Impacts Associates LLC, 2017.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-42	[Attachment 8: Review of the 2022 Draft Environmental Report for the North Delta Diversion by Bruce Herbold Ph.D. [See qualifications and experience in attachment 13.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.

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552-43	[ATT 8:] 1. Modeling Inadequate to Task. California's Climate has Substantially Shifted in Recent Years. There is widespread recognition in the scientific and policy communities that since the year 2000 California has been under a new climate regime predicted since the 1980s (PPIC 2022, Herbold et al. 2022) characterized by more drought years and more sporadic and intense flood years. This change is manifest in the recent setting of new extremes: the wettest year on record in 2017, the third wettest year on record in 2019, the driest three years on record from 2020-2022, the most intense October storm in 2021, and a clear pattern of mostly dry years interrupted by occasional floods. 'Reasonably foreseeable' should certainly be anchored in the recent past. Statewide temperature trends paint a clear picture of warmer than average temperature in winter (Figure 1A) [Exhibit 1 of Attachment 8]. The increase in wintertime temperature clearly starts in 1990 with only 3 years of the last 30 having statewide temperature below the 20th century average. All-time records for scarcity of snowpack have accompanied these consistent high wintertime temperatures. The lack of snowpack drastically changes the timing and amount of snowmelt runoff and corresponds with substantial reductions in salmon production. Interestingly, an increase in summertime temperatures did not manifest statewide until the year 2000, but since then there have only been two years with July temperatures below the 20th century average (Figure 1B) [Exhibit 1 of Attachment 8]. Higher summertime temperatures increase stress on young Winter-run Chinook Salmon and other Central Valley fish,	The comment summarizes climate trends in recent years. Chapter 12, Fish and Aquatic Resources, of the EIR acknowledges potential for future climate change effects; see in particular the section discussing Future Fish and Aquatic Resources Conditions. With respect to comments regarding climate change modeling, please see the discussion of climate change analyses in the EIR in Common Response 6, Climate Resilience and Adaptation, and the discussion of modeled representation of future conditions and climate change in Common Response 9, Hydrologic Modeling and Approach.

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	including the listed Delta and Longfin smelts.	
552-44	[ATT 8:] The state's 4th Climate Change Assessment notes that "Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia (IPCC, 2014). Climate change is already affecting temperatures across California. The warming observed in California is consistent with overwhelming evidence that the Earth is warming. In California, present-day (1986-2016) temperatures throughout the state have warmed above temperatures recorded during the first six decades of the 20th century (1901-1960)." [supporting citations removed] The first words in the newest Public Policy Institute of California's publication on California water (Priorities for California's Water) are: "In the last decade, California—along with the rest of the world— has entered a new phase of climate change. The changes that scientists predicted have started to arrive. California's already variable climate is growing increasingly volatile and unpredictable: The dry periods are hotter and drier, and the wet periods—lately too few and far between—are warmer and often more intense. " Precipitation patterns also have clearly shifted in line with most climate models. Most models have not predicted any great change in mean precipitation, but they do show increased variability, with higher floods and more frequent and intense droughts. California's history of the last 50 years exactly reflects this developing trend (Figure 2) [Exhibit 2 of Attachment 8]. In the 100 years from 1922 to 2022, there was one muti-year drought in the first fifty years and five in the last fifty, with three of the five occurring since 2000.	This comment provides information about climate change, increasing temperatures, and increased variability of precipitation. The comment is generally consistent with information contained in Chapter 30, Climate Change, regarding hotter conditions, variable precipitation (with drier dry periods and wetter wet periods), and the effects of atmospheric rivers in California. The comment does not raise significant environmental issues related to the analysis of impacts discussed in the EIR.

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	California's heaviest precipitation is driven by occasional arrivals of atmospheric rivers, usually over periods of less than a month. January is the wettest month on average, but the sporadic nature of storm arrivals makes it worthwhile to examine other months. In all months the pattern of increased variability is plain to see. On the left-hand side of the graph, in the first 50 of the last 100 years, most points are close to the long term mean and the extremes are not as extreme as on the right half. The extremes are also much more common on the right-hand side. Looking closely at Figure 2 [Exhibit 2 of Attachment 8] we can see that the peak flows in one month of one year seldom align with peak flows in other months. The short, sharp nature of recent floods is evident.	
552-45	[ATT 8:] The large drop since the year 2000 in the volume of sediment entering the Delta is well-documented and of broad ecological concern. Young fish depend on turbid water to escape predation and facilitate their own feeding. Sediment from the river is essential to both balance erosion from the lower estuary and to allow wetlands to maintain their necessary elevation to keep pace with rising sea level. Prior to the year 2000, sediment supplies from upstream were regularly higher than they are now; recent sediment supplies to the estuary come predominantly from the occasional flood flows with very little in the intervening dry years. The shift in temperature and precipitation patterns has been tied to decreased abundance of many of our native fish species especially salmon, steelhead, and smelts. At the same time the marked decrease in sediment supply from the rivers has greatly reduced turbidity in the bay and delta. The combination of altered hydrograph, warmer conditions, and decreased turbidity is associated with increased prevalence of aquatic	The comment summarizes climate trends in recent years. Chapter 12, Fish and Aquatic Resources, of the EIR acknowledges potential for future climate change effects; see in particular the section discussing Future Fish and Aquatic Resources Conditions. With respect to comments regarding climate change modeling, please see the discussion of climate change analyses in the EIR in Common Response 6, Climate Resilience and Adaptation, and the discussion of modeled representation of future conditions and climate change in Common Response 9, Hydrologic Modeling and Approach. The comment provides a number of claims broadly related to climate change without supporting citations. The comment's summary of changes in sediment, as well as other factors such as aquatic weeds and harmful algal blooms in the Delta, is acknowledged in the EIR and described in the discussion of the environmental setting in Chapter 12, Fish and Aquatic Resources. Regarding the comment's suggestion that the modeling is based on the hydrograph of the previous century, the modeling included in the EIR in fact includes hydrological conditions up to 2015 and therefore includes the present century. Differences in potential effects of the project

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	weeds and harmful algal blooms. The changes in the estuarine ecosystem and its ecological processes have been heavily documented. The fundamental nature of the Delta ecosystem has been different since the turn of the new millennium and much of the change is due to the much more variable hydrograph, consisting of hot and dry conditions interrupted by record-setting floods. Basing the modeled hydrograph for existing conditions on the hydrograph of the previous century is greatly misleading.	alternatives relative to baseline (existing conditions or the No Project Alternatives) between current (2020) and future climate conditions (2040) with respect to fish and aquatic resources are discussed in Appendix 12C; the comment does not mention this appendix or raise specific issues with it. Please also see the discussion of climate change analyses in the EIR in Common Response 6, Climate Resilience and Adaptation, and the discussion of modeled representation of future conditions and climate change in Common Response 9, Hydrologic Modeling and Approach.
552-46	[ATT 8:] [Exhibit 1 of Attachment 8: California statewide air temperature time series graphs from US Climate Divisional Database (https://www.ncdc.noaa.gov/cag/statewide/time-series) for January and July.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-47	[ATT 8:] [Exhibit 2 of Attachment 8: Wet season monthly precipitation totals for California from 1922 to 2022. From NOAA National Centers for Environmental information, Climate at a Glance: Statewide Time Series, published November 2022, retrieved on November 13, 2022 from https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series]	This comment provides information about climate change and increased variability of precipitation. The comment is generally consistent with information contained in Chapter 30, Climate Change, regarding variable precipitation. The comment does not raise significant environmental issues related to the analysis of impacts discussed in the EIR.
552-48	[ATT 8:] DEIR Modeling Reflects an Outdated Hydrology The modeling used to examine the impacts and benefits of the North Delta Diversion uses an unadjusted hydrograph (except for development, principally of water control structures) from 1922 to 2015. The 1922-2015 period was dominated by mostly wet conditions punctuated with occasional droughts. In particular, the 40 years from 1936 to 1975 had no droughts, while the last 22 years have seen three of the most severe droughts on record, including the driest three-year period on record.	Please see Common Response 9, Hydrologic Modeling and Approach, regarding modeled representation of CEQA baseline existing condition and modeled representation of future conditions and climate change. Common response 8 provides a discussion of the climate change variable DWR considered in the EIR, including why stationarity was appropriate for inclusion in the hydrologic modeling efforts for the project.

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	The assumption that a long data record is the best basis for resource planning has been termed "stationarity," in that weather is assumed to vary while climate remains the same. Fourteen years ago, Milly et al. (2008) concluded "In view of the magnitude and ubiquity of the hydroclimatic change apparently now under way, however, we assert that stationarity is dead and should no longer serve as a central, default assumption in water-resource risk assessment and planning" [emphasis added]. Since that 2008 publication, the idea that stationarity is dead has become widely accepted. The unadjusted hydrograph for the Central Valley dating back to 1922 is an inappropriate and misleading basis for the evaluation of environmental impacts of the proposed project. Of the 94 years of baseline hydrology, more than half the modeled years precede 1972, when we see the first hints of the shift to the new climate. Thus, the project is modeled under much more consistently wet conditions than we have seen in the last 50 years. The baseline period also excludes the wettest year on record (2017) and the driest multi-year period on record (2020-2022). The baseline of existing conditions used in the DEIR provides a picture of 'the good old days,' not 'existing conditions,' and is fundamentally misleading.	
552-49	[ATT 8:] The impact of the proposed project on sediment dynamics under the current sediment supply dynamics is another reason not to rely on the hydrograph of the 20th century to portray existing conditions.	As described in Chapter 3, Description of the Proposed Project and Alternatives, in the section titled Sedimentation Basins and Drying Lagoons, the project encompasses appropriately sized sediment basins where larger sand and silt sized sediment would settle out of the water column prior to flowing into the tunnel and being conveyed to the Southern Forebay or Bethany Reservoir. These sediment basins would be dredged annually and placed in a series of sediment drying lagoons. The Delta Conveyance

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		Project facilities are designed to be operational over the project's life, which takes into consideration variables in hydrologic conditions. Changes in sediments entering the Delta as a result of project operations were addressed in Chapter 12, Fish and Aquatic Resources, under Impact AQUA-6. The analysis concluded that the operation of the project would not have substantial effect on the characteristics of sediments moving through the Delta, and that the small amount of sediment entrainment that could occur would not result in significant impacts on delta smelt. As such, no additional mitigation measures to reduce this impact are required. Nevertheless, the EIR includes Environmental Commitment EC-15 to confirm the less than significant impact determination once operations commence and to address any unanticipated effects through an adaptive management approach (see Appendix 3B, Environmental Commitments and Best Management Practices). The analysis also recognized that movement of sediments into the Delta is influenced by upstream conditions, not affected by project operations.
552-50	[ATT 8:] The changes over the last thirty years are solid, detailed records and consistent with earlier climate change models. There are models of projected climate change that the DEIR uses to assess impacts in 2040. The 2040 scenarios reach conclusions, such as improved conditions for Winter-run salmon, that are strikingly at odds with our actual experience of climate change. Future conditions are likely to be more extreme than we have seen to date, but recent history is our best guide to the future. At the barest minimum the DEIR depiction of 'existing conditions' should be based on recent conditions. Basing the model on a hydrograph starting in 1922 inserts an abundance of moderately wet years that we are unlikely to see again, thus leading to an expectation of higher flows and more frequent	Please see Common Response 9, Hydrologic Modeling and Approach, regarding modeled representation of CEQA baseline existing condition and modeled representation of future conditions and climate change. DWR believes the hydrologic modeling conducted for the project is an accurate representation of 2040 for purposes of comparing the environmental impacts across project alternatives. While the comment suggests that the model based on a hydrograph starting in 1922 is overstating the abundance of moderately wet years, it does not account for inclusion of the more recent hydrologic conditions in the last decade. Further, the comment ignores that some of the worst droughts to date in California (e.g., 1930s and 1970s) are captured in that period. The comment does not suggest an alternative approach for modeling future conditions and climate change.

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	higher exports than are credible.	
552-51	[ATT 8:] DWR has embraced the need to include climate change impacts on California's water supply in other venues. For example, its Climate Change Program is staffed with excellent analysts. The DWR Climate Change webpage says: "Climate change is having a profound impact on California's water resources, as evidenced by greater weather extremes, reduced snowpack, higher sea level, and changes in river flows. … Managing climate change and its impact of water supply is one of DWR's core values. DWR's climate change program implements climate mitigation and adaptation measures to ensure that Californians have an adequate water supply, reliable flood control, and healthy ecosystems, now and in the future." [Footnote 2: https://water.ca.gov/programs/all-programs/climate-change-program.] In contrast to statement of 'core values' cited above, Appendix 5A describes the fundamental input data for modeling the project: "Inputs to CALSIM include unimpaired inflows and rainfall runoff, agricultural, urban, and wetland water demands, return flows, and groundwater recharge from precipitation and irrigation. Sacramento and San Joaquin Valley and tributary rim basin hydrology are developed using a process designed to adjust the historical sequence of monthly stream flows over a 94-year period (1922–2015) to represent a sequence of flows at existing and future levels of development." Climate change effects are only applied to the 2040 and 2100 scenarios.	Please see Common Response 9, Hydrologic Modeling and Approach, regarding modeled representation of CEQA baseline existing condition and modeled representation of future conditions and climate change. The Draft EIR included the climate change projections appropriately in coordination with the DWR Climate Change Program. Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the section titled No Project Alternative, describes model simulations for projected year 2040 conditions; there is no 2100 simulation. The only reference to 2100 with respect the modeling framework are references to sea level rise projections associated with Appendix 5A, Section B, in the section titled Sea Level Rise.
552-52	[ATT 8:] CEQA requires a depiction of the proposed project operating under 'existing conditions.' However, the delta inflows used to portray "Existing Conditions" in the DEIR is	Please see Common Response 9, Hydrologic Modeling and Approach, regarding modeled representation of CEQA baseline existing condition and modeled representation of future conditions and climate change. Please

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	described as “Historic” vs “Historical with Climate Change” for the No Project Alternative in 2040: [see Exhibit 3 of Attachment 8] The historical data used for the DEIR begin with 1922, whereas almost everyone concerned with California’s climate (including DWR) sees evidence of climatic regime shift at least since the year 2000 and credible evidence going back to the 1980s. Basing the DEIR analysis of project impacts on historical data from 1922 to 2015 inserts a large bias of 78 years that were wetter and less variable with many fewer droughts than we now experience. Thus, the depiction of ‘existing conditions’ ignores the impacts of climate change we have already experienced. The analysis of model outputs from such a flawed baseline cannot portray the likely impacts of the project under existing conditions. The 2040 scenario adapts the historical hydrograph by modifying it with expected climate change effects. These ‘future conditions’ are then compared with the baseline of ‘existing conditions’ that is heavily weighted with 78 years before climate change became apparent. This comparison approach greatly inflates the impacts of future climate change, thus dwarfing project impacts. In brief, the existing conditions scenario portrays a project operating under conditions of general wetness and climatic stability that provide many opportunities for the North Delta Diversion (NDD) intakes to be used. The future conditions scenario portrays a project operating under a climate of such dryness and variability that the project impacts are overwhelmed. But extreme dryness and variability are the	see Common Response 3, Alternatives Development and Description, regarding the baseline conditions used in the EIR. DWR believes the baseline conditions presented in the EIR are an accurate representation of hydrologic conditions for the purpose of conducting the analysis of the proposed project and project alternatives. The comment suggests that the model based on a hydrograph starting in 1922 is overstating the abundance of moderately wet years; however, some of the worst droughts to-date in California (e.g., 1930s and 1970s) are captured in that period. The comment does not suggest an alternative approach for modeling future conditions and climate change. The commenter has provided a statement of opinion regarding the various modeling assumptions; however, the comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the EIR; therefore, no further response is required.

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	climate of today. The last 22 years have been exceptionally difficult for both the Delta ecosystem and for water supply, but they are the most favorable scenario the DEIR should consider.	
552-53	[ATT 8:] [Exhibit 3 of Attachment 8: Excerpt from Table 3C-1 in Appendix 3C of DCP DEIR. Ble summary of SWP and CVP operations included in existing conditions and no project alternative.]	Please see response to comment 552-52 regarding hydrologic modeling.
552-54	[ATT 8:] Modeling Approach is Inconsistent with the Project Description The modeling is based on a monthly time step that is inconsistent with the operational procedures described in the DEIR. According to DWR, proposed project operations would take advantage of short-term changes in hydrology like the atmospheric deluge of October 26, 2021. [Footnote 3: https://water.ca.gov/News/Blog/2022/April-22/Big-Storms-Dry-Spells-Demonstrate-the-Need-for-Improved-Infrastructure] The operations described in DEIR chapter 3, use triggers and durations that are generally in terms of days. For example, at DEIR (p. 3-152): “Initiation of the pulse protection is defined by the following criteria: (1) Sacramento River daily average flow at Wilkins Slough increase by more than 45% within a 5-day period and (2) flow on the 5th day greater than 12,000 cfs. The pulse protection continues until either (1) Sacramento River flow at Wilkins Slough returns to pre-pulse flow level (flow on first day of 5-day increase), or (2) Sacramento River flow at Wilkins Slough decreases for 5 consecutive days, or	Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools and the limitations of using CalSim 3 as a planning tool that relies on a monthly timestep. The comment incorrectly assumes that the proposed operations criteria for the Delta Conveyance Project was not represented appropriately in the modeling. The monthly timestep CalSim 3 model and the 15-min timestep DSM2 model represent the project operations appropriately on the stated triggers and durations in Chapter 3, Description of the Proposed Project and Alternatives. The Draft EIR Appendix 5A, Modeling Technical Appendix, Section A, Modeling Overview, and Section B, Hydrology and Systems Operations Modeling, describe how the project operational criteria from Chapter 3 is incorporated into the CalSim 3 and DSM2 models. While the modeling inputs are represented on the appropriate timesteps, Appendix 5A, Section A, in the section titled Appropriate Use of Modeling Results, explains why the preferred use of the modeling results is on a monthly timestep and why care should be taken while using sub-monthly modeling results.

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	(3) Sacramento River flow at Wilkins Slough is greater than 20,000 cfs for 10 consecutive days. After pulse period has ended, operations will return to the bypass flow table." The DEIR indicates that operations would also be controlled by sweeping velocities across the fish screens, which will change with river flow and with the tides: hourly, biweekly, and seasonally. The high number of separate intakes should facilitate maintenance, but the project will not be able to run at full efficiency at all times. The projected maximum use of it during times of high river flow will expose the screens and intakes to high levels of debris. The use of monthly flows in the modeled proposed operations likely misrepresents the frequency with which the project could operate. Storms are frequently of durations less than a month, but a large storm would yield a monthly average flow that would inaccurately model high monthly exports for the entire month. On the other hand, a moderate week-long storm might not raise the monthly flow up to a level consistent with modeling larger exports and so modeled exports and impacts would remain minimal. Especially in a dry year, a large flow would trigger young salmon to move downstream and be exposed to project operations. As a result of the DEIR's reliance upon monthly averages, the DEIR may both overestimate project yield and underestimate project impacts on fisheries and water quality.	
552-55	[ATT 8:] A monthly time step for modeling such constrained and complex operations cannot accurately reflect likely project operations. In a system where climate change is increasing the variability of flow on a sub-monthly time scale, the DEIR likely assumes greater exports than either daily flow variations	Please see response to comment 552-54 and Common Response 9, Hydrologic Modeling and Approach, regarding best available tools and considerations of timesteps with the models used to support the EIR analyses. Effects of the proposed pulse flow criteria, as well as the other criteria, are

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	would allow. Young salmon respond to rapid changes in flow, as the pulse flow criteria above make clear, but such responses on appropriate time scales cannot be performed by CALSIM [water resources planning model]. In addition, the two pulse flow criteria are clearly aimed at protection of Winter-run outmigrants. But Spring-run salmon outmigration is triggered by flows on the Deer and Mill creeks, thus requiring additional pulse flow protections. Populations of wild fall run salmon and native Steelhead will also often require at separate times. Credibly and cautiously modeling salmon protection under a monthly time step model probably requires at least a couple of months of restricted operations.	analyzed for spring-run Chinook salmon, as well as the other salmonids mentioned in the comment, in Chapter 12, Fish and Aquatic Resources, of the EIR based on assumptions regarding pulse flow criteria. As described in Chapter 3, Description of the Proposed Project and Alternatives, during the time from permit issuance through initial north Delta diversion operations, DWR would conduct studies such as evaluating the relationship between the hydrologic conditions and the behavior of migrating juvenile salmonids in the Sacramento River reach between Wilkins Slough/Knights Landing and the north Delta intakes as part of the Operations Adaptive Management and Monitoring Plan, which addresses the issues mentioned in the comment. Please also see Common Response 3, Alternatives Development and Description, regarding refinements to operational criteria considerations that have occurred since publication of the Draft EIR.
552-56	[ATT 8:] The mismatch between large scale modeling of a project that is described as using adaptive management undermines the value of the DEIR. Adaptive management in the DEIR is not clearly defined, although examples are offered (DEIR p. 3.159): "Depending on the real-time assessment of presence and exposure/vulnerability of migrating listed fish, identify potential operational adjustments (if necessary, as determined through the adaptive management plan process) to minimize estimated impacts determined to be of significant concern (e.g., moderate to large decrease in estimated survival based on flow-survival relationship)." Any attempt to model such responses, especially on monthly timesteps should err strongly on the side of caution.	Please see Common Response 9, Hydrologic Modeling and Approach, for a discussion of why CalSim 3 was selected for the analysis and the use of the best available tools to inform the impact determinations presented in the EIR. The EIR presents substantial evidence supporting its impact conclusions and the effectiveness of proposed mitigation measures to reduce potentially significant impacts on fish and aquatic resources to a less than significant level, if necessary. As described in Common Response 1, for purposes of CEQA, “substantial evidence” means “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.” (CEQA Guidelines, § 15384(a).) In other words, analysis that complies with CEQA because it is supported by substantial evidence does not eliminate the potential for unanticipated outcomes. Adaptive management exceeds CEQA’s requirements because it constitutes a science-based approach to monitor and respond to uncertainties that remain even where conclusions and mitigation measures included in the EIR are supported by substantial evidence.

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		Please see Common Response 3, Alternatives Development and Description, for a discussion of the Operations Adaptive Management and Monitoring Plan (OAMMP, as described in Chapter 3, Description of the Proposed Project and Alternatives), which addresses uncertainty related to the north Delta intakes, and a description of the OAMMP development and decision-making process. The OAMMP will include a governance discussion that identifies how decisions related to potential operation refinements will be made and which agencies will be involved. Indeed, any future refinements to operations would be subject to regulatory agency approval. As further described in Common Response 3, the OAMMP will identify objectives, study metrics and thresholds for triggering adaptive management responses, and a governance process for implementation. As explained above, the OAMMP is not proposed as a CEQA EIR mitigation measure to reduce potential effects of the project alternatives. The OAMMP will be used to monitor environmental conditions (e.g., flow and biological data) and include performance criteria (e.g., level of effects identified through the effects analysis, such as through-Delta survival for juvenile salmonids) to confirm effects under the project are consistent with those analyzed during environmental compliance. If determined to be necessary, the OAMMP will inform potential operational refinements, including consideration of biological data to further optimize operations. As such, the adoption of an adaptive management approach in close coordination with fish agencies does not undermine the current analytical framework, nor the findings presented throughout the EIR. Rather, it builds from it using a scientific approach of comparing future observations to existing estimates – and facilitating incorporation of that information into both operational criteria updates, if necessary, as well as real-time decision making (e.g., more fine-scale operational adjustments based on observed fish response)—which cannot necessarily be predicted in a manner that supports quantitative modeling at this time, or not with absolute certitude. Real-time operations included in the current project description describes

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		the process in which the proposed criteria will be implemented (please see Chapter 3, Description of the Proposed Project and Alternatives).
552-57	[ATT 8:] Alternative Modeling The use of the longest possible historical baseline of monthly flows to assess project performance and impacts is a substantial flaw in that the DEIR minimizes the impacts of climate change under existing conditions. The flaw is amplified by the use of monthly time steps that cannot address the kind of operations anticipated for the project, as described by DWR if the project had been online in 2021- 2022. [Footnote 4: https://water.ca.gov/News/Blog/2022/April-22/Big-Storms-Dry-Spells-Demonstrate-the-Need-for-Improved-Infrastructure] To address the daily aspects of project operations and capture the actual existing conditions simply use the daily flow data of the last 30 years. DWR has already illustrated how the project would have operated if it had been in place last water year.[Footnote 2: https://water.ca.gov/programs/all-programs/climate-change-program.] Assuming DWR's claims are true with respect to the amount that could be diverted in the winter of 2021, this example illustrates the dangers and inadequacies of using monthly flow values. There is no reason that the work DWR did to estimate potential diversions in winter 2021 could not be replicated over the last 22 years of hydrology. This would better assess how much water could be taken and what the impacts of those operations would be on water quality, fish and other resources. Actual historical data on fish movement down the river would show the proportion of out-migrating salmonids protected by the suggested pulse flow requirements. Such an approach may address two major	Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools and modeled representation of CEQA baseline existing conditions. As a planning tool, a limitation of CalSim 3 is its reliance on a monthly timestep that uses the record of available hydrology that reflects the geographic scale of the SWP and CVP service areas. As noted in the comment, DWR used 2021-22 Delta flow conditions to demonstrate the potential benefits of the Delta Conveyance Project during infrequent short-duration high flow conditions even in drought years. This analysis showed maximum potential project diversions and does not take into account the conditions upstream of the Delta or south of the Delta. The CalSim 3 model appropriately captures this potential benefit of the project during the infrequent short-duration storms and estimates the potential project diversions considering other systemwide constraints. The fisheries analysis in Chapter 12, Fish and Aquatic Resources, relying on the Delta flows from these CalSim 3 and DSM2 model outputs, appropriately evaluated the effects of the Delta Conveyance Project operations. Common Response 3, Alternatives Development and Description, includes information on how the Delta Conveyance Project will operate the north Delta diversion and limits on those diversions and provides graphical depictions of how the Delta Conveyance Project may operate during infrequent short-duration high flow events.

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	shortcomings in the DEIR's analysis and could potentially increase the credibility of its conclusions.	
552-58	[ATT 8:] Water Supply Goals for the Project Are Not Clear Nowhere, in the portions that I have read, does the project identify quantifiable goals in volume or frequency of project operations. Without knowing what the project is intended to accomplish, it is difficult to assess when it would be successful and how often and how much it might reduce or avoid impacts on fish and water quality while still achieving it[s] goals. Without goals, it is impossible to identify when and how much project operations could be modified and still achieve water supply goals. On a bigger scale as well, it is difficult to assess if the proposed project is adequate to meet SWP needs or if it is excessively large.	As described in Chapter 2, Purpose and Project Objectives, the basic objective of the Delta Conveyance Project is to restore and protect the reliability of SWP water deliveries. The Delta Conveyance Project helps meet this by constructing and operating new water supply facilities within the Delta. Common Response 3, Alternatives Development and Description, section titled Range of Operation Scenarios, provides a discussion of how multiple operational scenarios were considered as part of the alternative development process. Common Response 3 also explains that the State Water Resources Control Board, not DWR, is responsible for decisions relating to water rights and allocations and that revisiting water allocations is not a project objective.
552-59	[ATT 8:] In the water supply discussion (Chapter 6) the water supply impacts of climate change in the absence of the project for different service areas is calculated. Three of the four service areas have "Alternate water supplies [that] would foreseeably compensate for the supply decrease associated with climate change and sea level rise, but an extended outage associated with earthquake risk would pose challenges." (DEIR Table 6-8.) The alternative methods to deal with the projected shortfall if the project is not built are described as "Increased/accelerated desalination, water recycling, groundwater recovery (brackish water desalination), groundwater management, water use efficiency improvements." These 'alternative methods' are already being actively pursued, and there is much evidence of continued application, such as the recently [sic] approval by the Coastal Commission of a desalination plant for Monterey. But the estimates of shortfalls without the project do not appear to	As described in Chapter 2, Purpose and Project Objectives, the basic objective of the Delta Conveyance Project is to restore and protect the reliability of SWP water deliveries. The Delta Conveyance Project helps meet this by constructing and operating new water supply facilities within the Delta. The Delta Conveyance Project is not proposing changes to operations or amount of storage provided by upstream facilities. The Delta Conveyance Project also does not preclude future changes to the state's water supply either through, for example, modifications of the operation of existing facilities or increasing water storage. The section titled Range of Operation Scenarios in Common Response 3, Alternatives Development and Description, provides a discussion of how multiple operational scenarios were considered as part of the alternatives development process.

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	reduce this demand in light of the ongoing alternative methods. The Delta Reform Act calls for "reduced reliance on the delta for meeting future water needs" (Water Code section 85021). But the DEIR promotes the Delta Conveyance Project, which would increase reliance on the Delta, as the only way to meet future demands. The least environmentally damaging way to meet the objectives of the project would certainly be the types of alternatives described in Chapter 6. The Southern Inland service area is the only one that cannot meet its needs under 2040 conditions without the project according to the DEIR. The shortfall for this area is estimated to be 252-334 TAF, although it would certainly be less as the area continues to implement alternative water supply methods. This analysis in the DEIR is the closest thing to a quantification of project goals. As mentioned above, DWR prepared an analysis entitled "Big Storms, Dry Spells, Demonstrate the Need for Improved Infrastructure and the Delta Conveyance Project" in April 2022. [Footnote 5: https://water.ca.gov/News/Blog/2022/April-22/Big-Storms-Dry-Spells-Demonstrate-the-Need-for-Improved-Infrastructure#] The estimated shortfall of 252-334 TAF for the Southern Inland region in the DEIR is slightly more than the 236 TAF calculated to have been available for capture by the project in the critically dry water year of 2022. The peak flows in October and December in 2021 were not available for export because the pulse flow protection would have been triggered. Almost all of the 236 TAF would likely have been taken in two weeks around Christmas. Clearly the least environmentally damaging project alternative would be to fund the alternative water supply actions for SWP service areas 1-3	

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	and to scale the new diversion to a much smaller size to meet any unmet needs of the Southern Inland service area. Such a project could be built and operated with much smaller environmental impact than the currently proposed project. A reasonable and needs-based quantified target for project operations would reduce impacts and allow substantive adaptive management by allowing the projects to shift and rescale their operations to meet an achievable yearly goal.	
552-60	[ATT 8:] 2. Fish Protection Measures Are Inadequate to Reach the Levels of Protection Assumed in the DEIR Inadequate Information on Operations to Protect Fisheries in DEIR The four Chinook Salmon runs and the various populations of Steelhead would all have to pass by the proposed intakes to complete their life cycles. Salmon do not move out of their natal streams en masse or all at once. Thermal and hydrodynamic processes, as well as seasonal and life cycle variations, would likely place fish of concern at the screens in most months. More pulse flow protection periods than the two allotted in the DEIR are likely necessary to protect the four Chinook Salmon runs to the less than significant impact assumed in the DEIR [ES-33]. The DEIR is unclear as to how the project would be operated to protect fisheries, referring to "real-time operational processes" and "Operations Criteria Concepts" and future studies (DEIR, 3-156 - 157). How many periods, how long, how restrictive, and what would trigger each protection period are all questions that need to be resolved before the	Please refer to Chapter 3, Description of the Proposed Project and Alternatives, for a description of operational criteria, including bypass flow, pulse protection and screen sweeping velocity requirements to protect fish species. These criteria are informed by historical fish data (e.g., run-timing relationship to seasonal, hydraulic, conditions). Based on the hydrologic, hydraulic, and other modeling assuming the proposed operational criteria used for the fish and aquatic resources analyses in Chapter 12, Fish and Aquatic Resources, the impacts on fish species were determined to be less than significant or less than significant with mitigation measures implemented. The EIR analyses do not support the comment that impacts are underrepresented or that fish protections are inadequate. In addition, the Operations Adaptive Management and Monitoring Plan (OAMMP) process includes monitoring and potential operational refinements (subject to fish and wildlife agency approval) to allow for adjustments to protections if they are determined to be needed and would be implemented consistent with the proposed operations. Please refer to the operational criteria section of Chapter 3 for tables describing the pulse protection duration and conditions for use of pulse protections. Please also see Common Response 3, Alternatives Development and Description, regarding refinements to operational criteria considerations that have occurred since publication of the Draft EIR.

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	project could be permitted, but guidance from DFW, NMFS, USFWS and SWRCBB would likely yield more protection actions than the two included in the DEIR. The two proposed pulse flow periods of 5-10 days (DEIR, Table 3-15) are briefer than would be required to protect all fish that will be at risk passing the new intakes at the less than significant levels assumed in the DEIR (ES-33).	
552-61	[ATT 8:] Even if the EIR is revised to contain more details on fish protection measures, it cannot anticipate future, real-time needs. An adaptive management plan needs to be designed to respond adequately as each water year develops. The Operations Adaptive Management and Monitoring Plan (OAAMMP DEIR 3-160) says: "Adaptive management for the Delta Conveyance Project, as described in Appendix 1B of the Delta Plan, would encompass three major phases: planning, implementation, and evaluation and response (Delta Stewardship Council 2015)." (emphasis added) And "In addition, an Operations Adaptive Management and Monitoring Program (OAMMP) would be used to monitor and consider the design and operation of the new north Delta intakes and determine whether they result in unanticipated effects that may warrant refinements in design, management, and/or operation." (emphases added). The DEIR goes on to describe several valuable monitoring efforts. However, nowhere is discussed what the responses or refinements to management or operations might be. As with	Please note that adaptive management is not a CEQA requirement and consistency with the Delta Plan's Best Available Science policy is not a CEQA issue. Nevertheless, please see Chapter 3, Description of the Proposed Project and Alternatives, in the section titled Adaptive Management and Monitoring Program, for further description of the project's adaptive management process and for a discussion of the project's consistency with the Delta Plan, including use of science-based, transparent, and formal adaptive management strategies. The Operations Adaptive Management and Monitoring Plan (OAMMP) is being developed in coordination with other processes (e.g., Endangered Species Act/California Endangered Species Act compliance, including formal consultation), providing further resource agency collaboration and development of a robust adaptive management approach. Please also refer to response to comment 552-56 for further discussion of the OAMMP and coordination with the regulatory agencies, not only to develop studies aimed at addressing uncertainties and improving understanding and ability to predict system changes and species-specific responses, but also to tailor real-time operations to the information gained over time. Please also see Common Response 3, Alternatives Development and Description, for a discussion of the OAMMP, which addresses uncertainty related to the north Delta intakes, and a description of the OAMMP development and decision-making process. Please see Common Response 11, Terrestrial Biological Resources and Compensatory Mitigation Plan, for a discussion of the adaptive

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	the case of determining the requisite number and style of pulse flows, consultation with the regulatory agencies would identify likely suitable responses to 'unanticipated effects.' Example responses would include shutting down one intake or the other, reducing both by various amounts, shifting timing of diversion in regard to daylight, tide or both, reducing diversions every other day or every three days so that some outmigrants are minimally affected. A longer list of possible responses would flow readily out of consultations with experts from the regulatory or academic communities. The desirability of testing some of possible responses, in association with the monitoring, to refine responses in advance of need would also become apparent. Such a prepared array of possible responses (and testing them in advance of need) would greatly improve response time and effectiveness. Without such preparation the DEIR fails to meet the cited definition of adaptive management from the Delta Stewardship Council.	management included in the CMP, which addresses uncertainty related to habitat restoration.
552-62	Project operations only at daytimes or only on falling tides, or both, could reduce the travel time of salmon across the fish screens. The DEIR says (p 12-88 footnote 23): "DSM2 modeling assumed the north Delta intakes generally operated during daytime hours (6 am - 6 pm) to the extent possible (except during the months of July - September). As described in Chapter 3, operators will operate the facility within the constraints at each intake, including minimum sweeping requirements and allowable approach velocities. To the extent possible, the SWP will prioritize north Delta diversion sub-daily diversions during daylight hours." Operating to "minimum sweeping requirements" will often require diversion operations to be synched with tidal flux. I do	The section titled Model Limitations in Appendix 5A, Modeling Technical Appendix, Section C, One Dimensional Delta Hydrodynamics and Water Quality Modeling Results, describes model limitations of DSM2, specifically the inherent limitation in simulating hydrodynamics related to open water areas. The section titled DSM2 Modeling Assumptions acknowledges key factors that influence this model; river flows, tidal boundary, and water quality (e.g., electrical conductivity). Please also see response to comment 552-26 regarding operations during falling tides. Chapter 3, Description of Proposed Project and Alternatives, provides a description of new operational criteria in the section titled New Operational Criteria for the Proposed North Delta Intakes, while the section titled North Delta Diversions explains the studies that would be undertaken to support the real-time decision-making framework, including studies of night/day behavior of fish approach. Please see response to comment 552-

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	not understand how DSM2 modeling of diversion would be restricted to "daylight hours to the extent possible"; modeling should meet whatever requirements the modeler applies. Of more concern is that the same prioritization of diversion to daylight hours of actual operations "to the extent possible," suggests that there are unidentified factors that would overrule that prioritization. I can find no discussion of quantitative goals or estimates of project yield anywhere in the documents. If the highest priority is to maximize total exports, then there is no flexibility to adapt operations or to support scientific studies of impacts. Reasonable annual targets are necessary to allow the flexible operations inherent in adaptive management.	70 regarding diversions during daylight hours. The commenter incorrectly suggests that the highest priority is to maximize total exports, presumably from north Delta diversions. As described in Chapter 2, Project Purpose and Objectives, none of the listed objectives makes this statement. Chapter 6, Water Supply, provides estimates of changes in water supply associated with the proposed project and alternatives compared to existing conditions. The proposed project and alternatives propose dual conveyance facilities and the existing south Delta SWP facilities would be prioritized. Proposed Delta Conveyance Project facilities would be used for operational flexibility when environmental and regulatory conditions allow for operation of new Delta Conveyance Project facilities. Please refer to Chapter 3 regarding the approach to adaptive management in including the Operations Adaptive Management and Monitoring Plan, which includes monitoring studies to address potential uncertainties for fish and aquatic resources. The section titled Adaptive Management in Appendix 3F, Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources, also outlines the comprehensive adaptive management approach for habitat sites and acknowledges the need for operational flexibility over time.
552-63	[ATT 8:] A quantifiable target for project operations would also allow better achievement of Objective 4 - "To provide operational flexibility to improve aquatic conditions in the Delta and better manage risks of further regulatory constraints on project operations." As water quality and fishery concerns shift in real time between the north and south delta diversion (SDD) sites, the less risky alternative could be prioritized. This kind of daily	The CalSim 3 and other modeling used to inform impact analyses is an accurate depiction of Delta Conveyance Project operations and is adequate for the purposes of determining impact significance for a range of Delta hydrologic and hydraulic conditions across the range of water year types in the model. The assumptions and limitations of the modeling approach are all fully disclosed in Appendix 5A, Modeling Technical Appendix, and results are used in applicable resource chapters to disclose whether impacts would exceed identified significance thresholds. The modeling tools are also adequate for comparison of alternatives' impact timing and magnitude at a level needed to determine impact significance.

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	operation cannot be modeled on a monthly timestep with CALSIM as is done in the DEIR. A daily approach is needed to understand fisheries and related impacts. DWR has already demonstrated with the value of a daily modeling (and operational) approach in its April 2022 blog, which appears to provide a much more detailed picture of likely project operations than is included in the DEIR.	Please refer to Common Response 3, Alternatives Development and Description, regarding information on shifting and diversion prioritization. Please also refer to Common Response 9, Hydrologic Modeling and Approach, regarding details on model representations at a daily timescale.
552-64	[ATT 8: Fish Screens Unlikely to Perform as Claimed The proposed diversions are downstream of outside bends of the river where fish tend to be most abundant (Figure 3 [Exhibit 4 of attachment 8] from DCA 2020). Intake A is at the end of an outside bend almost one mile long (Figure 4), so it is likely that most young salmon would be on the eastern bank and exposed to the screens. Intake B is on a straighter portion of the river, but downstream of a smaller outside bend (Figure 4 [Exhibit 5 of attachment 8]). The diversions hold the screens 12 feet away from the bank where out-migrating young salmonids tend to hold during daylight hours and migrate during nighttime hours (DCA 2020). Irrespective of the kind of fish screen or diversion operation plan, the size, configuration, and placement of the NDDs are likely to heighten predation on out-migrating young salmon. The DEIR calculates the survival of juvenile winter-run salmon through the Delta decreasing by 1 -10% as a result of the preferred project (DEIR, 12-4). Given the inappropriate picture of baseline conditions and the discrepancy between the monthly modeling and the short-term operations proposed, I do not find the analysis convincing. Given the issues surrounding the diversion site, I must believe that a high	As the EIR describes in Impact AQUA-2 in Chapter 2, the location of the intakes reflected recommendations of an inter-agency technical team. Note that Figure 3 provided in the comment actually shows the bathymetry of the river (at Fremont Weir), as opposed to fish density, as incorrectly described in the caption to Figure 3 (see comment 552-65). The corresponding figure of fish density is actually the lower panel of Figure fremont1 in the 2020 Delta Conveyance Design and Construction Authority (DCA) reference cited in the comment (as prepared as an interim document for an early meeting of an Independent Technical Review Panel). In that figure, it is actually noted that the fish density shifts away from the river right bank, as is apparent from the lowest levels of density occurring immediately adjacent to the bank. This does not support the comment's suggestion that most young salmon would be on the eastern bank and exposed to the screens. With respect to the comment's suggestion that the screens being 12 feet away from the bank where out-migrating young salmonids tend to hold during daylight hours, it is unclear from which part of the DCA (2020) reference the commenter is making this inference. As shown in Figure clark3 of the DCA (2020) reference cited in the comment, the highest density of juvenile Chinook salmon detected during daylight hours is closer to the inside bend of the river, and fish are not confined to the area immediately adjacent to the bank, as implied by the comment. Figure clark3 of DCA (2020) shows density of juvenile Chinook salmon tends toward the outside of bends, as is described in Impact AQUA-2 of the EIR, but the highest density is away from the bank and likely beyond 12 feet away. There is uncertainty in the specific distribution of fish, which will

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	percentage of young salmon will be exposed to significantly greater predation rates. Combined with the greater water clarity since the year 2000, I expect substantial predation losses at the diversion site. Even if the DEIR estimates are within the range expected from entrainment and impingement, they do not appear to account for additional mortality from predation.]	be addressed as part of the Operations Adaptive Management and Monitoring Plan (see Chapter 3, Description of the Proposed Project and Alternatives). With respect to the comment's suggestion that north Delta intakes are likely to heighten predation on young salmon, the comment provides no supporting literature for this suggestion. This is in contrast to the review of available literature in the Predation discussion of Near-Field Effects in Impact AQUA-2 of Chapter 12 the EIR, from which it is concluded that near-field predation effects of the north Delta intakes would be limited. Uncertainty is acknowledged therein and it is noted that fisheries studies would be undertaken to provide information on predatory fish and predation rate at the north Delta intakes once they are operational to inform the potential refinement of future operations and adaptive management (see the Chapter 3 discussion of Operations Adaptive Management and Monitoring Plan). With respect to the comment's reference to potential through-Delta survival effects on juvenile winter-run Chinook salmon, those analyses focus only on far-field effects (i.e., survival through river reaches as a function of flow and flow-related changes in migration pathway leading to reaches with varying survival rates). Note that mitigation is proposed to reduce potential through-Delta survival impacts to less than significant. As described in the analysis of Entrainment and Impingement for winter-run Chinook salmon in Impact AQUA-2, the fish screens would be expected to exclude all juveniles occurring in the vicinity of the north Delta intakes, that is., there would be no risk of entrainment. Based on the review of available literature and the design of the fish screens discussed in Impact AQUA-2, there would be minimal risk from impingement for juvenile winter-run Chinook salmon; the comment does not take issue with the studies supporting this conclusion.

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552-65	[ATT 8: Exhibit 4 of Attachment 8: Graphic of salmon density along a bend of the Sacramento that is Figure 3 from DCA 2020.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-66	[ATT 8: Exhibit 5 of Attachment 8: Excerpt from Sheet 1 of 8 in DEIR Mapbook 14-3, General Land Use Designations, Bethany Alignment, (Alternative 5).]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-67	[ATT 8: Exhibit 6 of Attachment 8: Copy of part of Table 12-23 from page 12-88 of the DCP DEIR.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-68	[ATT 8: Exhibit 7 of Attachment 8: Copy of Figure 3-5, Cylindrical Tee Screen Facility, from the DCP DEIR.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-69	[ATT 8: The proposed fish screens for the North Delta Diversions are vastly larger than any other fish screen operation I know. The differences in fish screen effects of the NDD versus the South Delta Diversion site are substantial. A fraction of out-migrating Sacramento salmon is currently diverted into the south Delta where predation and other sources of mortality reduce the number of fish arriving at the collection facilities. The screens of the current facilities do not prevent fish from entering them, but only help gather them for collection and relocation. Such 'salvage operations' are a poor method of fish protection, but the location of the SDD facilities prevents installation of the same type of screening that is proposed at the NDDs. The NDD would be on the path of all outmigrating Sacramento salmon, except those diverted onto the Yolo Bypass. The screens are a more modern design and would not require salvage and relocation. Thus, the new diversion sites should be better able to reduce entrainment of exposed fish in	With respect to the comment that the proposed fish screens are vastly larger than other fish screens to the commenter's knowledge, the diversion capacity of each intake site (1,500 cfs or 3,000 cfs, depending on site and alternative) is comparable to the magnitude of other screened intakes on the Sacramento River, such as the Bureau of Reclamation intake at Red Bluff and Glenn Colusa Irrigation District's Hamilton City intake. Studies of fish survival have been conducted at the latter intake, which are cited in the EIR and for which it is noted that the survival along the fish screen was at least similar to survival in the nearby portion of the channel without a fish screen, suggesting limited effects of predation (see Predation discussion of Near-Field Effects in Impact AQUA-2). See response to comment 552-64 regarding uncertainty and studies as part of adaptive management to inform predation risk. Consistent with the 2022 NOAA criteria for fish screens cited in the comment, the approach velocity at the proposed north Delta intakes would be 0.2 feet per second, less than the 0.33 feet per second approach velocity required when exposure time is greater than 60 seconds. Also, please see response to comment 552-28 regarding approach velocity at the

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	comparison to the SDD, but would expose a much larger portion of the population to predation. Variations in impacts on a project that would affect most of a population are more likely to have population-level impacts than diversions that affect only a fraction of the population. NMFS's guidance on fish screens focuses on keeping the duration for which individual fish are exposed to a screen to be less than 60 seconds: The 2022 NOAA criteria for fish screens says "The design approach velocity for active screens should not exceed 0.4 ft/s for fish screens where exposure time is limited to less than 60 seconds, or 0.33 ft/s where exposure time is greater than 60 seconds" Similarly, The Washington State Department of Fish and Wildlife draft criteria say "The criterion for the maximum exposure time for juvenile salmonids along a screen face is 60 seconds. This criterion is set to limit potential impingement on the screen and is based on stamina studies that found over 98% of the salmon fry tested were able to swim for at least one minute at the approach velocity criteria. The sweep velocity should be of sufficient magnitude to pass the entire screen face under the 60-second criteria. If this is not possible, then the screen design should include intermediate bypass entrances."]	proposed north Delta intakes. With respect to Washington State draft criteria cited by the comment, it is unclear if these draft criteria (from 2000) were adopted as standards. Regardless, these criteria are not applicable to California waters. Fish screening criteria for California provided by the California Department of Fish and Wildlife do not include exposure time criteria and instead require sweeping velocity to be at least two times the allowable approach velocity (California Department of Fish and Game 2000), hence the reason for the 0.4 feet per second sweeping velocity. Uncertainty in potential near-field effects of the north Delta intakes will be addressed as part of the Operations Adaptive Management and Monitoring Plan (see Chapter 3, Description of the Proposed Project and Alternatives).
552-70	[ATT 8: The calculated duration of exposure for salmon at the NDDs is reported in minutes and hours, rather than seconds, depending on time of day and size of fish (DEIR, Table 12-23, reproduced in Figure 4 [Exhibit 6 of Attachment 8] above). No	The comment cites one set of calculations provided in the EIR, which as noted in the EIR are based on laboratory studies of fish in close proximity to screens that were not within a several-hundred-foot-wide river channel. As qualitatively discussed in Impact AQUA-2, older (smolt-size) salmon

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	intermediate bypasses are included and there is little separation along the path of the fish screens, that might allow fish to recover from efforts to avoid impingement. The modeling of flows and velocities assumed most operations would be during daylight hours to avoid those times when fish tend to move downstream (DEIR p. 3.157). The project description asserts that project operators would operate in this fashion "to the extent possible" (DEIR 3-159) but it is not clear how often nighttime pumping would occur.]	juveniles exhibited behavior consistent with downstream migration (i.e., swimming with flow, as opposed to against it), which would decrease passage time. In addition, the table titled Mean, Minimum, and Maximum Estimated Time (Minutes) for Juvenile Salmon Acoustic Telemetry System (JSATS)-Tagged Winter-Run Chinook Salmon to Travel Distances of 30 Feet, 450 Feet, and 900 Feet in 2013-2019 in Chapter 12 provides estimates of potential passage time that are similar or lower than those cited in the comment, based on migration rates of acoustically tagged salmon in the Sacramento River. As noted in response to comment 552-69, uncertainty in potential near-field effects of the north Delta intakes will be addressed as part of the Operations Adaptive Management and Monitoring Plan (see Chapter 3, Description of the Proposed Project and Alternatives). Regarding nighttime pumping, as described in Appendix 5A, Section C, One Dimensional Delta Hydrodynamics and Water Quality Modeling Results, the north Delta intakes were assumed to operate during daytime hours (6:00 a.m. to 6:00 p.m.) to the extent possible (except during the months of July-September), which is possible when the amount of north Delta diversion specified by CalSim 3 was somewhat less than half the total combined capacity of the intakes. More specifically, if allowable diversions are about 5,950 acre-feet per day (equivalent to less than 3000 cfs over the full day), the diversions would start at 6 a.m., and occur for up to 12 hours. If daily allotment was between 5,950 and 7,930 acre-feet per day, the diversions would start at 3 a.m. and occur over an 18-hour period (i.e., around 12 hours of daytime pumping and 6 hours of nighttime pumping). If the daily allotment was over 7,930 acre-feet per day, the diversions would occur over a 24-hour period. Actual operations may be somewhat different than modeled since modeled operations were based on monthly inflows. As described in Chapter 3, operational criteria related to diel (day/night) behavior of fish in the intake reach would be studied in order to support adaptive management of the proposed operational criteria, if determined to be necessary.

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552-71	[ATT 8: The cylindrical T-shaped fish screen has a long history of great success on the Columbia River and has some advantages over the alternative flat-plate design (DCA 2020b). The diversion has supplied cooling water to a Columbia Generating Station for the last 40 years. But the T-Screen implementation that is widely viewed as successful are quite different than the arrangement described in the DEIR. The implementation on the Columbia River uses two intakes, each 9 m long with 4 m of screen. The structures are about 47 m from the western bank. Water flow is by gravity and there is very little debris. Major salmon spawning grounds upstream produced 8 to 56 million young salmon in 2018 and 2019, but only one salmon was entrained in each year. A recent analysis identified why the Columbia River screen has been so successful (Coutant 2021 [Exhibit 8 of Attachment 8]). The blunt, conical head of the cylindrical fish screen creates a high-pressure wave in front of the screen that stimulates a flight response in young salmon. Thus, few fish are exposed to entrainment risk. This system has worked well for 40 years with a variety of approach and sweeping velocities. Dr. Coutant found that: "The greatest entrainment-reduction effect of the T-screen structure appears to be through its surrounding hydraulics, in particular the bow-wavelike hydraulics caused by the nose cone that affects direct hydraulic bypass and behavioral avoidance. Whether the screening structure is a T-screen or other device, attention to the hydraulics upstream of the actual screen may enhance overall entrainment reduction." And concludes that:	The comment summarizes results from a study on the Columbia River cited in the EIR regarding cylindrical screens. The comment suggests that the cylindrical screens proposed for the north Delta intakes would not perform as well as those from the Columbia River. The EIR does not suggest that the cylindrical tee fish screens of the north Delta intake would perform similarly to those in the cited study, noting that there is the potential for a bow wave type effect, but that this is uncertain. The EIR also notes that during design of the intakes, computational modeling would be undertaken, and field measurements/baffle adjustments would be done during commissioning/operations, both to demonstrate performance and compliance with velocity criteria.

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	"What those additional [hydraulic] criteria should be is ripe for further research. One criterion could be inclusion of structural components upstream of the actual screens that provide hydraulic bypass of the screen. An ambient velocity criterion may be useful for formation of an effective bow wave. Velocity change or pressure-change criteria upstream of a screen structure might be useful for stimulating behavioral avoidance. These factors appear inherent in the axial-flow T-screen at CGS and may be feasible also for other screening systems. Each factor could be optimized to enhance the effect, tailored to the requirements of a site. The options for structures that modify hydraulics ahead of screens and deflect otherwise entrainable aquatic life seem endless." The proposed NDD fish screens would not be expected to perform as well as those in use on the Columbia River.]	
552-72	[ATT 8: The proposed fish screens for North Delta Diversions would be very long, held close to shore, and snug against the sidewall. The structure itself would produce the kind of turbulent flow and eddies where predatory fish usually lie in wait for their prey. The linked arrangement of 15 30-foot screens would eliminate most of the hydraulic benefits of the nosecone and associated fish behavior and probably eliminates most of the effectiveness of the T-cylinder screen configuration. There is no basis for expecting the high efficiency of the T-screen type to apply to its use at the NDDs, as claimed in the DEIR. Even if the screens were effective, their length and placement would expose fish to stresses beyond that allowed by NMFS or other Pacific coast states and are likely to yield	As shown in the figure titled Typical Intake Configuration in Chapter 3, Description of the Proposed Project and Alternatives, and Figure 4 provided by the commenter (see comment 552-68), the intakes include training walls, which give a gradual gradation of the intake structure away from the river bank to the screens, in order to minimize the potential for the types of turbulent flow and eddies mentioned in the comment. In addition, as cited in the EIR's discussion of Predation in Impact AQUA-2, available studies found no evidence of an elevated predation rate at the City of Sacramento Water Treatment Plant diversion, which has an intake with fish screens at the end of an in-river structure that projects 240 feet into the 720-foot-wide river channel. Please see response to comment 552-28 regarding predation. Please also see response to comment 552-71 regarding efforts that will be done to demonstrate velocity criteria.

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	high levels of predation on a large fraction of each of the depleted populations of Sacramento salmon and steelhead.]	
552-73	[ATT 8: Exhibit 8 of Attachment 8: Figures 1 and 2 from Coutant (2021) that depict the C872 intake profile with cylindrical screens and conceptual view of flow hydraulics associated with the screens, respectively.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-74	[ATT 8:] CONCLUSION Given the inappropriate CALSIM modeling for existing conditions, I cannot give credence to any of the analysis of impacts on fish of concern (nor of project efficiency). Since most of the rest of the modeling rests upon a foundation of the CALSIM model, I do not think it permits realistic analysis of impacts. Given the description of project operations responding to sub-monthly time steps in flow and fish presence, I do not believe the monthly time step in the CALSIM model can realistically portray project operations or impacts.	As described in the previous responses to the commenters' statements, the modeling tools and framework used for evaluating Delta Conveyance Project effects are the best available information at the time of the development of the Draft EIR. The commenter has provided a statement of opinion regarding the use of CalSim 3 with a monthly timestep to characterize existing conditions and the subsequent use of CalSim 3 model outputs to analyze impacts on fish of concern. Impacts of project operation under all alternatives were evaluated and disclosed in Chapter 12, Fish and Aquatic Resources.
552-75	[ATT 8: Given the placement, size and unfortunate arrangement of the T-cylinder fish screens, I fear substantial impacts on our already depleted salmon populations. These impacts include heightened predation opportunities, irrespective of operational issues. In addition, proposed pulse flow protections are inadequate to protect all the populations of salmon that will be exposed to them.]	Please see response to comment 552-64 regarding predation and responses to comments 552-25 and 552-26 regarding pulse flow protections.
552-76	[ATT 8:] The DEIR fails to provide a realistic assessment based on available scientific information regarding the impacts the project would have on fish. In addition, I cannot imagine how the regulatory agencies could approve this project given the likelihood of increased predation, extreme duration of exposure, lack of the dominant benefits of the T-shaped fish screens, and the uncertainty of actual operations.	Please see responses to comments 552-25, 552-26, 552-27, 552-28, 552-29, 552-43, 552-45, 552-64, 552-69, 552-70, 552-71, 552-72, and 552-75 regarding impacts on fish. With respect to regulatory agency project approval, please see the discussion of project approvals, permitting processes, and other required actions in Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues.

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552-77	[ATT 8:] REFERENCES Coutant C. 2021. Why cylindrical screens in the Columbia River (USA) entrain few fish, Journal of Ecohydraulics, DOI: 10.1080/24705357.2020.1837023 DCAa (Delta Construction Authority) 2020. Analysis of River Bends and Fish Migration. Available at: https://www.dcdca.org/wp-content/uploads/2020/06/Analysis-of-River-Bends-and-Fish-Migration.pdf DCAb 2020. Independent Technical Report of Intakes and response. Available at: https://www.dcdca.org/wp-content/uploads/2022/03/2020-Intakes-ITR-Report-and-Response-V.F-ADACompliant.pdf DWR Climate change webpage (https://water.ca.gov/programs/all-programs/climate-change-program) Herbold B, Bush E, Castillo G, Colombano D, Hartman R, Lehman P. et al. 2022. Climate Change Impacts on San Francisco Estuary Aquatic Ecosystems: A Review. San Francisco Estuary and Watershed Science, 20(2). http://dx.doi.org/10.15447/sfews.2022v20iss2art1 Retrieved from https://escholarship.org/uc/item/2xb097t7 NMFS (National Marine Fisheries Service). 2022. NOAA Fisheries West Coast Region Anadromous Salmonid Passage Design Manual, NMFS, WCR, Portland, Oregon. Available at: https://media.fisheries.noaa.gov/2022-06/anadromous-salmonid-passage-design-manual-2022.pdf	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.

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	PPIC (Public Policy Institute of California) 2022. Priorities for California Water – Thriving with Less. PPIC 16 pp. available at https://www.ppic.org/wp-content/uploads/priorities-for-californias-waternovember-2022.pdf WDFW (Washington Dept. of Fish and Wildlife) 2000. FISH PROTECTION SCREEN GUIDELINES FOR WASHINGTON STATE (draft), WDFW 56 pp. available at https://wdfw.wa.gov/sites/default/files/publications/00050/wdfw00050.pdf	
552-78	[ATT 8:] Overview I [Bruce Herbold, Ph.D. Private consultant in estuarine ecology and fish] have more than 40 years of experience in the ecology of fish in the Sacramento-San Joaquin Estuary. My Ph.D. dissertation was based on field work on the distribution, feeding and cooccurrence of various species of fish and invertebrates in Suisun Marsh. This led to unique knowledge of the habits of delta smelt and other native fishes of the upper estuary. My postdoctoral work started with the first comprehensive review of the status and trends of aquatic resources throughout the estuary. I have worked primarily in cross-disciplinary work-teams in support of water management and ecosystem protection throughout the estuary, from salt ponds in the south bay to habitat restoration in various parts of the delta. My career with the US Environmental Protection Agency began with developing new water quality standards to protect estuarine fish, for which I was awarded the Gold Medal for Outstanding Performance. Since then, I have worked in inter-agency and inter-disciplinary teams on environmental impacts of water projects as well as an array of habitat restoration projects. I retired from the USEPA and began	The commenter provided this attachment for reference purposes in support of its comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.

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	private consulting in 2013. As a private consultant I have worked for Natural Resources Defense Council, State and Federal Water Contractors Association, The California Dept. of Fish and Wildlife, The Army Corps of Engineers, The US Department of Justice and the California Dept of Justice. I have served on expert panels reviewing the Bay-Delta Conservation Plan and led a team of expert reviewing the Long Term Management Plan for Sediment in the Delta. Education Ph.D. Ecology; 1987 University of California, Davis Dissertation: Patterns of co-occurrence and resource use in a non-coevolved assemblage of fishes. Advisor: Peter B. Moyle M.S. Biology; March 1979 California State University Los Angeles Thesis: Effects of Salinity on Temperature Tolerances of Tilapia zillii Advisor: David Soltz B.A. Zoology; January 1975 University of California, Berkeley Activities Independent Consultant March 2013-Present Ongoing Co-Chair Interagency Ecological Program Estuarine Ecology Team (EET) Associate Editor for San Francisco Estuarine and Watershed	

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	Science Panel Member on Symposium on Spring-Season San Joaquin Flows and South Delta Exports. Technical Advisor and Expert Witness on Impacts of New Federal Biological Opinions on Endangered Fish for California Department of Justice. Preliminary injunction granted; other issues still pending in state court. Review Shasta Dam Raise Draft Supplemental Environmental Impact Statement and related modeling to provide substantive comments to the Bureau of Reclamation. Sole witness called by state in defense of Interim Operations Plan. Successful Defense of Interim Operations Plan for CVP and SWP operations to allow development of new Biological Opinions while litigated 2019 Biological Opinions are suspended. Salmon Recovery planning, collaborative project across many agencies and groups. My involvement is through Gary Bobker of the Bay Institute with funds from the State Water Contractors. Completed Projects Independent Technical Review: Calif Coastal Commission for Prop 1 funding of Temperance Flat, Sites, and Pacheco reservoirs.	

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	Stanislaus River Restoration Plan Proposals submitted for funding through RFPs of Delta Science Program and CA Dept. of Fish & Wildlife. 2016, 2017, 2018, 2019, 2020 Co-Chair Interagency Ecological Program Climate Change Project Work Team, subcontract with AECOM Technical Advisor and Expert Witness in Federal Court for Siegel Environmental. Assess biological impacts of unpermitted wetland destruction at Point Buckler, Solano County. Defendant found guilty. Sub-contractor to ESAssociates for California Dept. of Fish and Wildlife on Development of Franks Tract Futures Development of Objectives, Implementation Strategy and Scientific Basis for Phase II. Contract with State Water Resources Control Board Co-Chair Interagency Ecological Program Climate Change Project Work Team, subcontract with AECOM Co-Chair on Art and Science for 2018 Bay Delta Science Conference Development of Objectives, implementation Strategy and Scientific Basis for Phase II. Contract with State Water Resources Control Board Dutch Slough Adaptive Management and Monitoring Plan. Contractor to RD 2137 to review, revisit and revise the adaptive management plan developed for Dutch Slough	

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	restoration in 2008 and develop a monitoring program for the current restoration plan. Science Advisory Team member 2016-1017. North Bay Biosentinel Project of San Francisco Estuary Institute Technical Advisory Team member 2014-2016 Development of Numeric Flow Criteria to Support Freshwater Bio-objectives, Hydromodification Management, and Nutrient Numeric Endpoints of S. Ca. Coastal Water Research Project, Eric Stein leader Role of Hydrodynamics in the Capture of Delta Smelt. Sub-contractor to Delta Modeling to examine physical predictors of catch of Delta Smelt in the Fall Midwater Trawl and Bay Study surveys. Product published March 2016, see below Independent Review of Delta Long-Term Management Plan of the USACE. Subcontractor to MWH to gather panel and review draft plan from 2001 for applicability to current sediment management needs in the Delta and recommend direction of changes in plan. Development of Monitoring Framework for Tidal Wetland Restoration in the Sacramento-San Joaquin Delta. Contract with California Department of Fish and Wildlife to help develop a monitoring framework that would promote consistency and high value in the monitoring of the massive amount of tidal wetland restoration proposed under various programs, especially the Fish Restoration Program, the OCAP Biological Opinions, and the Bay-Delta Conservation Plan. See publications below.	

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	Ecological Technical Advisory Team for Stockton Deep Water Ship Improvement. Cochair of multi-agency biological advisory team with Ellen Johnck. The U.S. Army Corps of Engineers proposes to deepen San Joaquin River navigation channel, from the Golden Gate to Stockton. Salinity intrusion is expected under both current and future conditions and changes in flow may alter impacts on fish of other delta activities, particularly water management. The panel developed a report describing a comprehensive framework for evaluating these impacts in the forthcoming EIR/EIS. Connectivity of Waters of the United States Report – Reviewed for Natural Resources Defense Council the accuracy, logic and thoroughness of an independent panel report to EPA on physical and ecological connectivity of waterways. Defining which waterways comprise 'waters of the United States' (and so fall under jurisdiction of the Clean Water Act) has been difficult since the Supreme Court in 2001 invalidated the approach EPA had been using. Since almost all water bodies connect and degradation of water bodies will usually affect the "physical, chemical and biological integrity" of water bodies downstream, defining the waters of the United States is contentious and broadly important in meeting the goals of the Clean Water Act, Bay-Delta Conservation Plan Review – Member of Panel (with Jeff Mount, Wim Kimmerer, William Fleenor and Brian Gray) to review modeling and conclusions of draft Bay Delta Conservation Plan on behalf of the non-profit environmental groups American Rivers and The Nature Conservancy. For the review, with assistance of NewFields, we independently reanalyzed the results of proposed operations of the project	

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	and confirmed that benefits portrayed by the modeling could be substantial, but that the modeling did not closely conform to the proposed project operations. Report published in West NorthWest Journal of Environmental Law and Policy. Bayland Ecosystem Habitat Goals Update in respect of Climate Change – co-chair of Wildlife Group (with Nadav Nur of PointBlue). Other groups worked to describe how various transition, wetland and bay habitats would be affected by likely changes due to climate change. The Wildlife group used 27 case studies of plants and animals to describe how habitat changes and expected, but unpredictable catastrophes would affect valued plants and animals. Drs. Herbold and Nur were the primary authors of the chapter and the guiding force for development of the case studies. Report published 2015 by California Coastal Conservancy. Tidal Wetlands Symposium – Invited summary speaker at Symposium at UC Davis and lead author (of nine, see publication below) of article on the value of wetlands to fish. Benefits of wetland restoration to pelagic fish had been an article of contention between various interests. The symposium was organized by the Delta Science Program and the American Fisheries Society to address the issue as applied to the San Francisco Estuary. Conclusions largely focused on the in-situ value of wetlands overall, rather than on their contributions to neighboring habitats and provided explicit guidance on how location and structure would determine the value of wetland restoration efforts. Essay published in San Francisco Estuarine and Watershed Science at: http://escholarship.org/uc/item/1147j4nz	

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	Lower Yolo Ranch – Member of expert panel on project design and performance measures. Initial design for this project had involved substantial restructuring of the topography at large cost and with the potential for substantial collateral environmental impacts. Using historic, hydrodynamic and ecological guidance from this panel, a new design will be implemented that will be more likely to achieve environmental goals in a sustainable fashion with little impacts on other values and with large potential to elucidate ecological processes and guidance for future management. Fish Biologist with US Environmental Protection Agency 1991-2013. - Lead on water quality standards for protecting aquatic life, adopted by both USEPA and State Water Resources Control Board. Co-lead on Vernalis Adaptive Management Plan Member in team to develop Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) models. Technical team leader on restoration/adaptive management plan for Dutch Slough Coordinator on the Interagency Ecological Program (IEP). Worked on Management, Assessment, and Synthesis Teams (MAST) and the Fall Low Salinity Habitat (FLaSH) team. Member of South Bay Salt Team restoration strategy team Professional awards	

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	Gold Medal for Exceptional Service, USEPA, as member of team that developed final Water Quality Standards for the protection of aquatic resources of the Sacramento-San Joaquin Delta and for defining critical habitat of the threatened delta smelt. Publications: B Herbold, Bush E, Castillo G, Colombano D, Hartman R, Lehman P. et al. 2022. Climate Change Impacts on San Francisco Estuary Aquatic Ecosystems: A Review. San Francisco Estuary and Watershed Science, 20(2). http://dx.doi.org/10.15447/sfews.2022v20iss2art1 Retrieved from https://escholarship.org/uc/item/2xb097t7 Climate Change MAST (Management, Analysis and Synthesis Team). 2022. Synthesis of data and studies related to the effects of climate change on the ecosystem and biota of the Upper San Francisco Estuary. IEP Technical Report 99. B Herbold, PB Moyle, A Mueller-Solger, T Sommer. 2021. In Honor of Larry Brown. San Francisco Estuary and Watershed Science, 19 (2). Retrieved from https://escholarship.org/uc/item/87p0n0vm B Herbold, S M Carlson, R Henery, R C Johnson, N Mantua, M McClure, PB Moyle and T Sommer. 2018. Managing for Salmon Resilience in California's Variable and Changing Climate. San Francisco Estuary and Watershed Science, 16(2). Retrieved from https://escholarship.org/uc/item/8rb3z3nj	

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	R Hartman, B Herbold, K Kayfetz, and S Culberson. 2017. Regional Transport Conceptual Model for Tidal Wetland Restoration, Chapter 3 in S. Sherman, R. Hartman and Dave Contreras 2017. Effects of Tidal Wetland Restoration on Fish: A Suite of Conceptual Models. IEP Technical Report 91. Dept. Water Resources, California. Available at: http://www.water.ca.gov/iep/docs/tech_rpts/TR91.Wetland_CM_2Nov2017.pdf K Hoffman, S Fong, S Sherman, and B Herbold. 2017. Contaminants and Tidal Wetlands, Chapter 4 in S. Sherman, R. Hartman and Dave Contreras 2017. Effects of Tidal Wetland Restoration on Fish: A Suite of Conceptual Models. IEP Technical Report 91. Dept. Water Resources, California. Available at: http://www.water.ca.gov/iep/docs/tech_rpts/TR91.Wetland_CM_2Nov2017.pdf San Francisco Regional Water Quality Control. 2016. Point Buckler Technical Assessment of Current Conditions and Historic Reconstruction Since 1985. Prepared by Siegel Environmental, San Rafael, CA, published by San Francisco Bay Regional Water Quality Control Board, Oakland, CA. May 12. Appendix P. An Assessment of Adverse Effects on Beneficial Uses Related to Listed Fish Species by Point Buckler Tidal Marsh Diking and Closure from Daily Tidal Connectivity. Bevar AJ, M MacWilliams, B Herbold, LR Brown and F Feyrer. 2016. Linking hydrodynamic complexity to Delta Smelt (Hypomesus transpacificus) distribution in the San Francisco Estuary, USA. March 2016 issue of San Francisco Estuary and	

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	Watershed Science. Nur N, and B Herbold. 2015. Risks from Future Change for Wildlife in Chapter 5: in The Baylands and Climate Change: What We Can Do. Baylands Ecosystem Habitat Goals Science Update 2015. Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. California State Coastal Conservancy, Oakland, CA. http://www.baylandsgoal.org. Brown LR, R Baxter, G Castillo, L Conrad, S Culberson, G Erickson, F Feyrer, S Fong, K Gehrts, L Grimaldo, B Herbold, J Kirsch, A Mueller-Solger, S Slater, K Souza, and E Van Nieuwenhuyse. 2014, Synthesis of studies in the fall low-salinity zone of the San Francisco Estuary, September–December 2011: U.S. Geological Survey Scientific Investigations Report 2014–5041, 136 p. http://dx.doi.org/10.3133/sir20145041. Mount J, W Fleenor, B Gray, B Herbold, W Kimmerer. 2014 The Draft Bay-Delta Conservation Plan: Assessment of Environmental Performance and Governance. West Northwest Journal of Environmental Law and Policy 20(2): 245-374 Herbold B, DM Baltz, LR Brown, R Grossinger, W Kimmerer, P Lehman, PB Moyle, M Nobriga, CA Simenstad. 2014. The Role of Tidal Marsh Restoration in Fish Management in the San Francisco Estuary. San Francisco Estuary and Watershed Science 12(1) DiGennaro B, D Reed, C Swanson, L Hastings, Z Hymanson, M Healey, S Siegel, S Cantrell, B Herbold. 2012. Using Conceptual Models in Ecosystem Restoration Decision Making: An Example	

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	from the Sacramento-San Joaquin River Delta, California. San Francisco Estuary and Watershed Science, 10(3). jmie_sfews_11181. Retrieved from: http://www.escholarship.org/uc/item/3j95x7vt Grimaldo LF, T Sommer, N Van Ark, G Jones, E Holland, PB Moyle, P Smith, B Herbold, 2009. Factors affecting fish entrainment into massive water diversions in a freshwater tidal estuary: can fish losses be managed? North American Journal of Fisheries Management: 29: 1253-1270 Nobriga M, and B Herbold. 2009. The Little Fish in California's Water Supply: a Literature Review and Life-History Conceptual Model for Delta Smelt (Hypomesus transpacificus). Sacramento-San Joaquin Delta Regional Ecosystem Restoration Implementation Plan. Sommer T, C Armor, R Baxter, R Breuer, L Brown, M Chotkowski, S Culberson, F Feyrer, M Gingras, B Herbold, W Kimmerer, A Mueller-Solger, M Nobriga, K Souza, 2007. The collapse of pelagic fishes in the upper San Francisco Estuary. Fisheries 32(6):270-277. Feyrer F, B Herbold, SA Matern, PB Moyle. 2003. Dietary shifts in a stressed fish assemblage: consequences of a bivalve invasion in the San Francisco Estuary. Environmental Biology of Fishes 67:277-288. Sommer T, R Baxter and B Herbold. 1997. Resilience of Splittail in the Sacramento-San Joaquin Estuary. Transactions American Fisheries Society 126:961-976.	

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	Moyle PB, R Pine, LR Brown, C Hanson, B Herbold, K Lentz, L Meng, J Smith, D Sweetnam and L Winternitz. 1996 Recovery Plan for the Sacramento-San Joaqiun Delta Native Fishes. USDOI USFWS 193 pp. Meng L, PB Moyle and B Herbold. 1994. Changes in Abundance and Distribution of Native and Introduced Fishes of Suisun Marsh. Transactions American Fisheries Society 123:498-507. Herbold B, AD Jassby and PB Moyle. 1992. Status and Trends of Aquatic Resources of the San Francisco Bay and Delta. San Francisco Estuary Project. 210 pp + 2 appendicies. Moyle PB, B Herbold, L Miller, D Stevens. 1992. Life history and status of delta smelt in the Sacramento-San Joaquin estuary, California. Transactions American Fisheries Society. 121:67-77 Herbold B and PB Moyle. 1989. The Ecology of the Sacramento-San Joaquin Delta: a Community Profile. US Fish and Wildlife Service Biological Report 85(7.22) xi+106 pp. Moyle PB and B Herbold. 1987. Life history patterns and community structure in stream fishes of western North America: comparisons with eastern North America and Europe. in W.J. Matthews and D.C. Heins (eds.) Community and evolutionary ecology of North American stream fishes. University of Oklahoma Press, Norman. Herbold B and PB Moyle. 1986. Introduced species and vacant niches. American Naturalist 128(5):751-760.	

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	Herbold B, An alternative to the fullness index. 1986. in C.A. Simenstad and G.M. Cailliet (eds) Contemporary studies on fish feeding: the proceedings of GUTSHOP '84. Dr. W. Junk, Dordrecht, Netherlands. Moyle PB, RA Daniels, B Herbold, and DM Baltz. 1985. Patterns in distribution and abundance of a non-coevolved assemblage of estuarine fishes in California. Fisheries Bulletin 84:105-117 Herbold B. 1984. Structure of an Indiana stream fish association: choosing an appropriate model. American Naturalist 124(4): 561-572. Moyle PB, B Herbold and RA Daniels. 1982. Resource partitioning in a non-coevolved assemblage of estuarine fishes. In Gutshop 1981, G.M. Cailliet and C.A. Simenstad (eds). Washington Sea Grant. Presentations: Western Division American Fisheries Society, annual conference 2016, Reno NV A Strategy to Restore California's non-migratory native fishes, starting with Sacramento Perch Bay-Delta Science Conference 2014: A reevaluation of the Relationships between X2, the low salinity zone and fish habitat utilization. Co-author Where and why are the fish? Investigating the relationship between hydrodynamic complexity and delta smelt abundance in Suisun Bay. Co-Author	

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	Methods for improving California's Awareness Californians' awareness and knowledge of SF Bay Delta . Panel leader Ecological Society of America, national conference 2014, Sacramento CA Co-convener of Panel on communicating science to policy Understanding your audience and how they are not you. Presentation Western Division American Fisheries Society, annual conference 2013, Boise ID Co-convener of Panel on improving oral presentations Communicating Despite PowerPoint.	
552-79	[ATT 9: Technical Comments on Climate Change and Modeling in Delta Conveyance Project Draft Environmental Impact Report from Chung-Te "Dick" Tzou, PE, Department of Resource Management.]	This comment provides the title for Attachment 9 and requires no additional response.
552-80	[ATT 9:] The 2040 climate change projections implemented in CalSim3 is inadequate without appropriately considering the increasing frequency and intensity in extreme weather events It is generally agreed among researchers that future climate in California will not only experience changes in average precipitation and temperature, but also in frequency and intensity in the extremes (Huang et al., 2022, Donat et al., 2016, and Swain et al., 2018). This conclusion is reiterated in various sections of the DEIR as well. For example, Chapter 30.2.2 – Climate Change Trends in California, notes "…Although	Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the sections titled Hydrology and Extreme Conditions, and Attachment 4, Climate Change Development for Delta Conveyance Project, describe in detail the modeling framework adopted in the EIR, including the development, application, and limitations (e.g., stationarity, stressed water supplies) of CalSim 3. Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools, modeled representation of future conditions and climate change, modeled representation of CEQA baseline existing conditions, and climate change assumptions as input into hydrologic model. Common Response 6, Climate Resilience and Adaptation, provides a

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	changes in annual precipitation are projected to be small in many regions throughout California, extreme heavy precipitation events and dry spells are projected to increase significantly throughout the state (California Governor's Office of Planning and Research et al. 2018a:22, 26)." Similarly, Chapter 30.2.2.1– Recent Trends in Climate concludes that "Long-term observations have not shown significant trends of California being wetter or drier overall, but rather recent trends have observed general increases in annual, winter, and spring precipitation variability that indicate an increasing frequency of precipitation extremes— heavy precipitation and drought (He and Gautam 2016:11, 17)." Latest Climate Change Science in Non-Stationarity Projections It appears that these future trends of increasing intensity and frequency of wet and dry extremes described in DEIR Chapter 30.2 are not reflected in the DEIR's Calsim 3 climate change modeling efforts. The 2040 (2026 – 2055) central tendency (CT) climate change scenario was developed for CalSim3 future simulations as described in Appendix 5A Section B.3.2. A total of 20 coupled Model Intercomparison Project (CMIP5) global climate model projections were used and statistically downscaled based on the localized constructed analog (LOCA) method at 1/16th degree spatial resolution (Pierce et al., 2014). The statistical downscaling approach implemented by Pierce et al. (2014) for climate change is not implemented with an approach in non-stationarity. As a result, extreme wet and dry events under climate change continues to follow historical patterns. Section B.10.1 indicates that "the inflow hydrology for the existing conditions model is based on assumptions of stationarity." Similarly, it is assumed that future model	discussion of climate change assumptions, scenarios, and timeframes DWR selected for inclusion in the EIR. Please also see response to comment 552-31 and 552-84 regarding the climate change projections implemented in CalSim 3.

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	scenarios with climate change in CalSim 3 are also based on conditions of stationarity. These assumptions should be clarified in the DEIR since frequency and intensity of extreme events are critical factors in considering impacts to the environment and the operation of the proposed conveyance project that could yield very different CalSim3 results due to their sensitivity to these changes including the proposed diversion from the north Delta intakes. Nonetheless, the CalSim3 climate change model scenarios should be updated to include such increasing frequencies in extreme events to better represent future conditions. As such, a similar understanding and consideration is also noted and emphasized in Appendix 5A Section B.7.1 regarding CalSim3's monthly time step modeling, and its sensitivity towards daily flow variability, "The operation of the proposed north Delta intakes is sensitive to the daily variability of Sacramento River flows, as bypass flow requirements that are described in the previous section also vary on a daily basis. Short duration, highly variable storms may permit significant diversion but only for a short period of time."	
552-81	[ATT 9:] As an illustration to demonstrate the effects of the increasing frequency of extreme events, a hypothetical scenario with more frequent and intense extreme wet and dry events with longer drought periods could potentially lead to reduced diversion amounts by the north Delta intakes as currently proposed. Even though there may be a few more very extreme wet events providing diversion opportunities, the overall opportunity to divert may be reduced due to shorter peak flow durations and longer drought periods with diminishing excess flows. There may also be storage limitations in San Luis Reservoir where excess flows are stored during high river	Please see Common Response 6, Climate Resilience and Adaptation, regarding how the project would provide climate change resilience to the State Water Project even in potentially drier future conditions. Additionally, DWR evaluated project operations considering a drier climate change scenario under the 2040 scenario in a sensitivity analysis, the results of which are summarized in Appendix 30A, CalSim 3 Results Sensitivity to 2040 Climate Change and Sea Level Projections. The sensitivity analysis demonstrated the reliability of the climate change and sea level rise analysis presented in the EIR. Please refer to Common Response 6 and Common Response 9, Hydrologic Modeling and Approach, for additional information about the sensitivity analysis. Please refer to Common Response 6 and Chapter 30, Climate Change, regarding observed

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	flows. The following figure [Exhibit 1 of Attachment 9] is a hydrograph of Sacramento River flow at Freeport just upstream of the proposed north Delta intakes from January 2003 to December 2022. During the historic 20-year period (2003-2020), the hydrograph shows about seven major storms, which may be considered as extreme events where the peak flows exceeded 75,000 cfs circled in red, notwithstanding that potentially, some of these high flows may be due to high spring runoff or combinations of snow runoff and large storms. Assuming in 2040 and beyond could see increasing extreme events, due to the impacts of climate change, there may be a double amount of these large storms in the following 20 years. At the same time, projections of longer extended droughts between these extreme wet events are anticipated. Consequently, many of the smaller storm events between these extreme events with peaks circled in green in the hydrograph may not be occurring as frequent based on future climate change conditions. Historically, these in-between smaller storm flows, which are numerous, could potentially provide excess flows and diversion opportunities for the north Delta intakes. However, with the expectation of the future climate change conditions as described above [comment 80], the proposed north Delta intake diversion opportunities may be significantly reduced.	trends and projected impacts of climate change on the study area, including changes in extreme wet and dry events. Common Response 6 discusses the changes to flows and excess flows, as well as the increased frequency of heavy rainfall events between stretches of drier periods.
552-82	[ATT 9:] [Exhibit 1 of Attachment 9: Hydrograph of the Sacramento River at Freeport from January 2003 to December 2022.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-83	[ATT 9:] The emergence of the "whiplash effect" is also projected to be on an upward trajectory based on studies by Swain et al. (2018) and others. The "whiplash effect" is defined as the occurrence of two consecutive years during which a wet	Please see the response to comment 552-81 regarding consideration in the EIR of the effect of potentially hotter, drier future conditions, including changes in precipitation and hydrology, on the project and on environmental resources. The assertion that the phenomenon described by

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	year follows right behind a dry year in sequence. In other words, the transitional years between wet and dry years such as above-normal and below-normal years are diminishing. This phenomenon in climate change could further lessen the ability of the proposed conveyance project to capture excess flows resulting from the so-called normal smaller storms, which is becoming more obsolete as projected in climate change.	the commenter "could further lessen the ability of the proposed conveyance project to capture excess flows" is speculative and not supported by the analyses presented in the EIR, as described in responses to comments 552-81 and 552-84.
552-84	[ATT 9:] Also note that during the winter and spring in the wet water years when most of the extreme events would occur, reservoir storage (i.e., San Luis Reservoir) downstream of the north Delta intakes would be limited, which would further restrict the ability of the proposed north Delta intakes to divert available flows. The following table in Appendix 5A Section B Attachment 5 [Exhibit 2 of Attachment 9] shows the average long-term end-of-month San Luis Reservoir storage with Alternative 5 (i.e., north Delta intakes) in 2040 for different year types based on the CalSim3 modeling results. For wet water years, the San Luis Reservoir which has a storage capacity of approximately 2 MAF is nearly full for most of the winter and spring (Feb – Apr). Note that the table is only showing the current DEIR CalSim3 climate change scenarios, which do not include the increasing extreme events conditions as projected by recent science. In other words, given the latest science in climate change projections, diversions from the proposed north Delta intakes may potentially be significantly reduced compared to the current CalSim3 simulations presented in the DEIR due to a combination of limited opportunities to divert and limited storage space. However, it is equally likely that depending on the temporal distribution of storm events due to climate change uncertainties, the north Delta intakes may potentially divert more water resulting in greater impacts on the environment downstream than	Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the sections titled Hydrology and Extreme Conditions, and Attachment 4, Climate Change Development for Delta Conveyance Project, describe in details the modeling framework adopted in the EIR, including the development, application, and limitations (e.g., stationarity, reservoir storage capacity, stressed water supplies) of CalSim 3. In addition, please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools, modeled representation of future conditions and climate change, modeled representation of CEQA baseline existing conditions, and climate change assumptions as input into hydrologic model. Common Response 6, Climate Resilience and Adaptation, provides a discussion of climate change assumptions, scenarios, and timeframes DWR selected for inclusion in the EIR. The commenter's assertion that the climate change scenarios considered in the EIR do not include increasing extreme events conditions is inaccurate. The modeling approach and climate scenario adopted throughout the EIR are consistent with the latest climate change science. In addition, the assertion that diversions "may potentially be significantly reduced compared to the current CalSim 3 simulations presented in the DEIR" is speculative and unsupported by the analyses presented in the EIR. Please refer for instance to Appendix 30A, CalSim 3 Results Sensitivity to 2040 Climate Change and Sea Level Projections, which presents a comparison of three different climate change and sea level rise scenarios at 2040 and clearly demonstrates that their effects do not differ substantially from the other 2040 simulations analyzed in the EIR, nor from each other. The project

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	currently projected. Therefore, it is imperative that the latest science in climate change be incorporated into the modeling efforts for future projections to assess a range of potential scenarios. A similar understanding and consideration is also noted and emphasized in Appendix 5A Section B.7.1 regarding CalSim3's monthly time step modeling, and its sensitivity towards daily flow variability, "The operation of the proposed north Delta intakes is sensitive to the daily variability of Sacramento River flows, as bypass flow requirements that are described in the previous section also vary on a daily basis. Short duration, highly variable storms may permit significant diversion but only for a short period of time."	would operate under these climate change conditions as demonstrated by the Appendix. The CalSim 3 model was used to model existing conditions and the 2040 CT scenario. CalSim 3 is used within a comparative analytical framework, and is not predictive. The use of this model and the ability to compare results between conditions ensures robustness of the analyses by controlling for any potential bias in modeled vs actual climate change effects. Please note that even if/when the San Luis Reservoir is full, there are other storage locations available for the State Water Project to utilize and receive Article 21 deliveries. The comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the EIR, therefore no further response is required.
552-85	[ATT 9:] [Exhibit 2 of Attachment 9: Table from Appendix 5A Section B of the DEIR showing San Luis Reservoir (SWP and CVP) End-of-Month Storage, End-of-Month Storage for Alternative 5 (2040).]	The commenter provided this exhibit to their attachment for reference purposes in support of their comments. The table reproduced in this comment is mislabeled by the commenter. The table provided by commenter is a reproduction of a table titled San Luis Reservoir (SWP and CVP) End-of-Month Storage (S_SLUIS), End-of-Month Storage (thousand acre-feet), Alternative 2a/4a (2040) in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, Attachment 5, CalSim 3 Model Results for No Project Alternative and Alternatives at 2040.
552-86	[ATT 9:] Implementation of Appropriate Climate Change Projections in CalSim 3 Modeling The CDWR Climate Change Technical Advisory Group (CCTAG) concluded in the Perspectives and Guidance for Climate Change Analysis Report (2015) that the uncertainty of such extreme events due to climate change is a knowledge gap that needs to be addressed in the future, specifically the appropriate tools to downscale global climate models for local	Please see Common Response 9, Hydrologic Modeling and Approach, regarding the use of best available tools (e.g., model assumptions, uncertainties, and limitations) and modeled representation of future conditions and climate change predictions (e.g., stationarity) in the EIR. Common Response 9 discusses the use of statistical downscaling in the EIR and specifically the use of the best available downscaled climate projection dataset to support the EIR at the time of the analysis. As described in Common Response 9, the assumption of stationarity is based on the best available science available to DWR.

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	conditions with non-stationarity such as dynamic downscaling. The report provides insights on the selection of climate change models, methods, and approaches for future projections by stating that "The CCTAG acknowledges that climate change impacts on extreme events remains uncertain" and "The integration of these processes that yields a flood or drought is complex. CCTAG supports continued efforts to identify knowledge gaps and pursue studies to address such gaps." The CCTAG concluded with these key points: Statistical-downscaled products are acceptable to meet immediate needs, as well as for continuity, consistency with efforts by agencies other than DWR, and convenience. Nonetheless, either new statistical methods or, preferably, dynamical downscaling will be needed to address many issues that DWR is likely to face in the future; DWR should design and/or support an inter-comparison of downscaling methods and sources that reflects its particular applications and needs;	Common Response 9 also provides information as to why CalSim 3 was selected as the best available tool to model project operations. The commenter has provided a statement of opinion regarding the modeling framework described in the EIR; however, the comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the EIR, therefore no further response is required.
552-87	[ATT 9:] Implementation of Appropriate Climate Change Projections in CalSim 3 Modeling The CDWR Climate Change Technical Advisory Group (CCTAG) concluded in the Perspectives and Guidance for Climate Change Analysis Report (2015) that the uncertainty of such extreme events due to climate change is a knowledge gap that needs to be addressed in the future, specifically the appropriate tools to downscale global climate models for local conditions with non-stationarity such as dynamic downscaling. The report provides insights on the selection of climate change models, methods, and approaches for future projections by	Please see the response to comment 552-86 regarding the modeling framework described in the EIR, including the use of statistical downscaling.

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	stating that "The CCTAG acknowledges that climate change impacts on extreme events remains uncertain" and "The integration of these processes that yields a flood or drought is complex. CCTAG supports continued efforts to identify knowledge gaps and pursue studies to address such gaps." The CCTAG concluded with these key points: DWR should prepare for a future that will likely use dynamical downscaling methods by ▪ Joining with research efforts that are improving the accuracy of high-resolution dynamical models. ▪ Preparing its own watershed-scale models and analyses to use the more highly resolved and multivariate results that dynamical models will yield	
552-88	[ATT 9:] Implementation of Appropriate Climate Change Projections in CalSim 3 Modeling The CDWR Climate Change Technical Advisory Group (CCTAG) concluded in the Perspectives and Guidance for Climate Change Analysis Report (2015) that the uncertainty of such extreme events due to climate change is a knowledge gap that needs to be addressed in the future, specifically the appropriate tools to downscale global climate models for local conditions with non-stationarity such as dynamic downscaling. The report provides insights on the selection of climate change models, methods, and approaches for future projections by stating that "The CCTAG acknowledges that climate change impacts on extreme events remains uncertain" and "The integration of these processes that yields a flood or drought is complex. CCTAG supports continued efforts to identify knowledge gaps and pursue studies to address such gaps." The CCTAG concluded with these key points:	Please see the response to comment 552-86 regarding the modeling framework described in the EIR, including the use of statistical downscaling.

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	"DWR should develop an appraisal and plan for the readiness of the observation networks that will underpin its climate-change activities, including downscaling of climate-change scenarios."	
552-89	[ATT 9:] An implementation example of dynamic downscaling which includes conditions of non-stationarity has been developed by Huang et al., 2020 and Swain et al, 2018, where a finer-scale regional weather model is coupled dynamically with a coarser resolution global climate model. One of the objectives in Swain et al. (2018) is to assess simulated changes in the frequency of California precipitation extremes including atmospheric rivers caused by increasing atmospheric greenhouse gas concentrations. The simulation results are shown in the following figures. [Exhibit 3 of Attachment 9] They illustrate the relative change compared to preindustrial climate conditions in frequency of extremely wet seasons and extremely dry seasons based on the climate change model projections through dynamic downscaling. The percent changes in both frequency trend lines exhibit increasing changes relative to the preindustrial baselines. For frequency of extreme events in northern California, a nearly 100% increase is projected. The shaded areas are the 16.66th and 83.33th percentile bounds.	The attachment provides an example of non-stationarity and dynamic downscaling implementation. Please see the response to comment 552-86 regarding the modeling framework described in the EIR, including the use of statistical downscaling.
552-90	[ATT 9:] [Exhibit 3 of Attachment 9: Graphs titled "Frequency Change of Extremely Dry Seasons" of northern and southern California between 1935 and 2075.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-91	[ATT9:] Uncertainties in model results were inadequately addressed. Quantification of model uncertainties is necessary to increase confidence in model results The DEIR repeatedly mentions the uncertainties and limitations	Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, discusses uncertainty related to the topics in the following sections: the section titled Hydrology, the section titled Regulatory Uncertainty, and the section titled Model Precision in a Relative Analysis. The section titled Methods to Identify Potential Changes in

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	in the model results. It indicates that CalSim3 is a planning model on monthly time step, and it is not designed to be predictive in nature, but rather a comparative tool to assess relative changes between two simulations. It also continues to emphasize that "Even with comparative analysis, model uncertainty and its influence on model results presented in the Draft EIR cannot be completely avoided. In addition to showing the potential effects of the project being analyzed, differences between two scenarios can sometimes include the unintended effects of model uncertainty." (Appendix 5A Section B.11.2). DWR claims CalSim3's comparative results are subject to uncertainty that is within 5% and likely much lower than 5%. It is unclear whether 5% applicable to all output parameters or just only certain ones. It would be hard to justify and measure this narrow range of uncertainty knowing that there are so many unknowns and variables regarding the operations of the conveyance systems in the field alone. The meaning of uncertainty used in this modeling context should be clearly defined for all output parameters, otherwise, the implications for potential project impacts may be misleading.	Surface Waters in Chapter 5, Surface Water, acknowledges that no exact quantification of model uncertainty is available. In a comparative analysis, observed differences in model results less than 5% are likely null. This criteria was not intended to apply to any single CalSim 3 output parameter, rather as general guidance for comparative purposes. As discussed in Common Response 9, the low value of 5% is based on an understanding of how CalSim 3 works and the intended purposes of the model output as a tool to assess differences between project alternatives and to support the environmental impact assessment. CalSim 3 is the best available planning-level tool to describe both existing and planned SWP/CVP system operations, the hydrologic characteristics of changing system operations, and ultimately as a tool for conducting comparative assessments.
552-92	[ATT 9:] There are also various areas of uncertainties described only qualitatively in the DEIR, including occurrences of extreme weather conditions, regulatory requirements, system operations, and etc. However, none of the uncertainties are quantified or estimated based on actual observed data, which is a weakness in this CEQA analysis. Understandably, there are always assumptions, errors, and other unknowns in any modeling efforts. It is also clearly stated in Appendix 5a Section A that, "Numerical models developed and applied for the Draft EIR are generalized and simplified representations of a complex water resources system. The models are not predictive models of project operations and results cannot be considered as	The commenter provided this exhibit to its attachment for reference purposes in support of its comments. The table reproduced in this comment is mislabeled by the commenter. The table provided by commenter is a reproduction of a table titled San Luis Reservoir (SWP and CVP) End-of-Month Storage (S_SLUIS), End-of-Month Storage (thousand acre-feet), Alternative 2a/4a (2040) in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, Attachment 5, CalSim 3 Model Results for No Project Alternative and Alternatives at 2040. Appendix 5A, Section B discusses uncertainty related to the topics in the following sections: the section titled Hydrology, the section titled

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	absolute with a quantifiable confidence interval. The model results are only useful in a comparative analysis and can only serve as an indicator of conditions." Without a good understanding of its limitations in a quantifiable manner, the level of confidence in the simulated results in the DEIR is significantly affected. To be useful, the simulated model results must be tied to real observations to be meaningful through the quantification of these uncertainties by providing a range of simulated values that may deviate from observed values in absolute terms. Otherwise, the DEIR is only an academic exercise based on hypothetical scenarios on relative terms. For example, if the uncertainty level of a model result is 15% relative to the actual observed data, then smaller relative differences or uncertainty level (less than 15%) in model results when comparing between model runs may not be significant or concerning because the relative differences between model runs are still within range of the overall uncertain level of a model relative to the observed. In other words, a difference of 5% between model runs will be insignificant or inconsequential if the uncertainty level of model results relative to the observed conditions is assumed at 15%.	Regulatory Uncertainty, and the section titled Model Precision in a Relative Analysis. The section titled Methods to Identify Potential Changes in Surface Waters in Chapter 5, Surface Water, acknowledges that no exact quantification of model uncertainty is available. Later, clarification with respect to 5% criteria is explained as follows: in a comparative analysis, observed differences in model results less than 5% are likely null. This criteria was not intended to apply to any single CalSim 3 output parameter, rather as general guidance for comparative purposes.
552-93	[ATT 9:] The DEIR's description of how one should use the model results to determine significant impacts is inadequate and unsuitable as described in B.11.5 – Statistical Comparisons are Preferred. It notes that "Use of absolute differences computed at a point in time between model results from an alternative and a baseline to evaluate potential impacts is an inappropriate use of model results (e.g., calculating differences between the results from a baseline and an alternative for a particular month and year within the period of simulation.)	The Draft EIR relied on the best available modeling tools and framework at the time of the preparation. The description about the appropriate use of modeling results in the Draft EIR is correctly characterizing how to use the results from such best available tools. The comment paraphrases text from Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the section titled Statistical Comparisons are Preferred. While the comment suggests that comparison of model results is not helpful or practical, it does not suggest an alternative that recognizes the limitations of CalSim 3 as set forth in Appendix 5A, Section

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	Computing differences between long-term or water year type averages of model results from two scenarios is appropriate." Applying such an interpretation of the model results to compare them to a threshold or standard values is not very helpful and practical in assessing impacts that are time or season sensitive because it does not consider the range of potential variability which may or may not impact the area of concern. For example, comparing absolute long-term average monthly salinity levels in the rivers at a location between model scenario runs masks the potential that for particular months, weeks, or even days when salinity levels may be extremely high due to fluctuating river flows and tides. As such, these instances may impact the beneficial uses of that water for either urban or agricultural purposes, while the increase in salinity levels on an average long-term basis may be considered acceptable or insignificant. A similar time scaling issue in CalSim3 modeling is discussed in Appendix 5A Section B.7.1 regarding the variability of daily river flows and their effects on the calculations of the Fremont and Sacramento Weirs spills and the diversions at the proposed north Delta intakes. DWR's initial studies show that monthly model results of diversion potential are likely overstated and the weir spills (i.e., bypass flows) are underestimated due to their sensitivity to the winter and spring daily flow variability of the Sacramento River. Subsequently, a data mapping technique that transforms monthly flow volumes into daily flow patterns was developed and successfully implemented by DWR to improve CalSim3's monthly operational decisions by computing better estimates of bypass flows and the north Delta intake diversions. It is unclear whether this mapping technique is applied to other	B, in the section titled Model Limitations of this appendix. The comment's characterization of the modeling constraints and timesteps considered in the EIR impact analyses, using salinity as an example, is inaccurate. Please refer to Common Response 9, Hydrologic Modeling and Approach, and Common Response 10, Surface Water Quality and Groundwater Resources, for detailed explanations of the appropriate use and timestep of the Delta Simulation Model II (DSM2) as the best available tool for surface water quality analysis. Note that DSM2 runs on a 15-minute timestep and can effectively track and address the effects of tides or rapidly fluctuating river flows on salinity, contrary to the commenter's assertions (please see Impact WQ-5 in Chapter 9, Water Quality, which supports further impact determinations such as the ones pertaining to agricultural resources presented in Chapter 15, Agricultural Resources). The data mapping technique used to disaggregate monthly data to daily was only used for modeling of the existing Fremont and Sacramento Weirs and proposed north Delta diversion operations.

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	monthly model parameters and results.	
552-94	[ATT 9:] Project alternatives are inadequately examined and presented in the DEIR. The screening analysis for previously studied alternatives should be updated so that all proposed alternatives may be thoroughly evaluated based on the latest technology and available science. A total of 21 potential alternatives were generated and considered including several alternatives (i.e., Through-Delta Conveyance without New Diversion Facility) that would continue to utilize the existing SWP and CVP conveyance infrastructure without constructing new facilities (described in Appendix 3A.3.4.). However, many of the Through-Delta Conveyance alternative projects were studied and proposed at various times in the past, some as early as 1929. The DEIR did not present any evidence of re-visiting these older alternatives or considering them in combination with other alternatives utilizing latest available science, which may potentially result in a different evaluation outcome due to updated data, improved science, and new technology. These projects were screened and eliminated based only on a qualitative assessment and the DEIR's conclusions are derived studies conducted many years ago without any additional analysis. DWR did not fully develop these alternatives for consideration in the screening process. The conditions in the Delta are ever changing and knowledge and understanding of Delta processes improves each year. Therefore, in light of the rapidly evolving science and the advancement of new technologies, re-evaluation of these Through-Delta Conveyance and other older projects with appropriate analysis and rigor should have been included in the DEIR's discussion of alternatives. Other proposed projects such as the Forecast- Informed Reservoir Operations (FIRO)	The EIR does not support the comment's assertion that recent studies and best available science were not used in screening alternatives and that DWR did not revisit previously proposed alternatives. The project alternatives are the outcome of an extensive screening process summarized in Chapter 3, Alternatives Development Process, and Alternatives Screening Analysis, and detailed in Appendix 3A. Appendix 3A includes consideration of potential alternatives to the project, alternatives identified during the public scoping process, and alternatives previously considered for the California WaterFix environmental review process. Please also refer to Common Response 3, Alternatives Development and Description. Citation of specific early studies in Appendix 3A did not mean to imply that earlier studies were the most recent or only studies considered. The phrase "These studies have included" indicates that these were only part of a larger group of studies reviewed. The historic documents provided valuable background to inform and compare with similar current studies and proposals. The more recent (2016) evaluation of the BDCP/WaterFix, explaining how DWR considered and screened out several alternatives, was also consulted, along with other recent studies listed in the References section of Appendix 3A. Appendix 3A, section titled Identification of Alternatives Under CEQA, details the various past proposals that were reviewed, including through-Delta proposals, and why they were eliminated. The section titled First-Level Screening - Alternative Meets Most of the Project Purpose and Objectives, provides a table listing the reasons individual proposals were eliminated or carried forward for further screening and analysis for the Delta Conveyance Project. Through-Delta alternatives were screened from further consideration because they did not meet most of the basic project

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	approach to reservoir operations upstream of the Delta may also be considered as an alternative project to be analyzed and evaluated.	objectives such as water supply reliability, sea level rise and seismic resiliency and operational flexibility. While technology has changed since the earlier studies, what has also changed is the passing of federal and state environmental protection laws and policies that constrain solutions that might have been entertained in prior years. Forecast-Informed Reservoir Operations (FIRO) would not meet most of the basic project objectives including for instance seismic resiliency. In addition, it could not be used as an alternative to the project or in the No Project Alternative because coordinated reservoir operations and pre-release of stored water as informed by short-term runoff forecasts may affect reservoir operations at daily and hourly time scales and cannot be incorporated into the monthly planning model, CalSim 3 end-of-month, used for the Delta Conveyance Project EIR. During the flood season, CalSim 3 end-of-month simulated storage cannot exceed water control manual "guide curves" established by USACE for Section 7 reservoirs (U.S. Flood Control Act of 1944). The model is agnostic to daily or hourly operations that may occur within the month. Typically, water control diagrams are based on basin wetness indices and/or the historical likelihood of runoff events of a given magnitude. Skill in weather and streamflow forecasting may lead to more flexible flood control rules and the potential to increase reservoir storage during the refill season. However, incorporating reservoir forecasting into a monthly planning model would require USACE to amend their regulatory requirements. In the absence of these regulatory changes there is insufficient basis to incorporate FIRO into a monthly planning model that is used in support of an EIR and attempts to do so would be speculative. Please refer to EIR Appendix 5A, Modeling Technical Appendix, which provides all the assumptions used in modeling the hydrological analyses.

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552-95	[ATT 9:] The DEIR fails to include an economic analysis for the alternative projects to aid in the alternative selection process. Section 15126.6 of the CEQA Guidelines states that, "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." The "reasonable" term may be defined as a project alternative that would be cost-effective. Even though cost analysis is not required in CEQA for environmental impact assessment, cost and benefit analysis is an important component to consider for any publicly funded projects for comparison purposes, especially a massive capital investment such as this.	While an economic cost benefit analysis is not a requirement of CEQA, the EIR addresses environmental costs and, generally, the water supply benefits of the project. Please refer to Common Response 7, Implementation Considerations, regarding costs and funding. Consideration of findings of fact prepared for the decision-making process will also address the feasibility of project alternatives and mitigation measures. In addition, because the proposed project and alternatives could result in some significant and unavoidable impacts, a statement of overriding considerations is required should DWR decide to approve the project. The statement of overriding considerations would include discussion of the balance of applicable economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of the project against its unavoidable environmental risks and would be considered by the decisionmaker when determining whether to approve the project.
552-96	[ATT 9:] Consideration of model assumptions on future conditions is inadequate The DEIR indicated that existing conditions in facilities and programs are used to model future CalSim3 scenarios. However, future water supplies and demands differ from existing conditions to represent projected changes in land use and, urban growth, climate change, and sea level rise. The CalSim3 simulations for future conditions fail to consider any special adaptation measures that would result in managing SWP and CVP facilities in a manner different from existing conditions other than (a) adjustments to reservoir releases to meet regulatory standards, including Delta outflow, under the changed environment, and (b) changes to discretionary project allocations based on future water supplies. Such assumptions may be satisfactory if future projected conditions are unknown	Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools, modeled representation of future conditions and climate change, and modeled representation of operation criteria. As described in Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the No Project Alternative subsection, the CalSim 3 simulations for future conditions represent projected 2040 conditions in the absence of the Delta Conveyance Project, the simulation of the No Project Alternative under the 2040 scenario acknowledges that water supplies and water demands differ, and the model represents projected changes in land use and urban growth, climate change, and sea level rise from the existing conditions. Appendix 5A, Section B, in the section titled Model Limitations, describes seven discrete limitations that were used to establish the assumptions incorporated into CalSim 3. While the comment suggests CalSim 3

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	or undetermined in the immediate future. The DEIR assumes that completion of the proposed project would be about 16 years into the future around 2040, and there are several potential programs and projects that are currently in development, which may be implemented by 2040 that should be considered when analyzing the project's potential effects. These projects include the Voluntary Agreement (VA) MOU (signed on Mar 29, 2022), the State Water Resources Control Board's required upcoming Bay-Delta Water Quality Control Plan update, the enhanced reservoir operations (i.e., Forecast-Informed Reservoir Operations (FIRO)) in the Yuba and Feather River watersheds upstream of the confluence with the Sacramento River, and the proposed off-stream Sites Reservoir on the Sacramento River upstream of the project intakes. Furthermore, these projects should also be included in the cumulative project impact analysis which were not performed in the various pertinent chapters such as water quality, aquatic resources, water supply, and etc.	simulations fail to consider special adaptation measures, in fact these considerations and applicability of model outputs are subject to a wide array of requirements and guidelines incorporated into the CalSim 3 model. Appendix 3C, Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions, in the section titled Cumulative Impact Analysis, provides a detailed discussion of the approach to analyzing cumulative impacts consistent with CEQA requirements. As applicable, each resource chapter presented in the EIR provides a discussion of the cumulative impacts of the comprehensive lists of the programs, projects, and policies that DWR determined was adequate for consideration in the EIR. Among the examples of potential programs and projects suggested by the commenter, some are already included in the Existing Conditions and No Project Alternatives (e.g., Bay-Delta Water Quality Control Plan Update - San Joaquin River Flows and Southern Delta Salinity), some are indeed considered in the cumulative impact analysis (e.g., Bay-Delta Water Quality Control Plan Update - Delta Outflows, Sacramento River and Delta Tributary Inflows, Cold Water Habitat and Interior Delta Flows or Sites Reservoir) and some are speculative and do not meet the CEQA definition of reasonably foreseeable, therefore, they were not considered in the EIR. Please also refer to Appendix 4C, Alternate Regulatory Scenario Sensitivity Analysis, which considers whether potential future changes to existing regulatory requirements (including some provisions of the Voluntary Agreements Memorandum of Understanding) could cause changes to potential environmental effects disclosed in the Draft EIR. Note that this sensitivity analysis is not required by the California Environmental Quality Act (CEQA) nor used to support the CEQA findings presented in Chapters 7 through 32 of this Draft EIR, but demonstrated that potential environmental impacts under such alternate regulatory requirements would be largely similar to those disclosed throughout the EIR. Please also refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the overall

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		approach to the cumulative analysis.
552-97	[ATT9:] Potential Future Management Programs: The DEIR does include an alternate regulatory scenario sensitivity analysis regarding the implementation of the VA [Voluntary Agreement] MOU in Appendix 4C. However, only a limited preliminary set of actions agreed upon by the VA parties were analyzed rather than the implementation of a full range of potential actions. The implementation of FIRO [Forecast Information Reservoir Operations] in the Feather and Yuba River watersheds and the proposed operation of the Sites Reservoir in the near-term future are also not considered as part of the projected future conditions. The omission of these projects skew cumulative impact analysis and makes the No Project Alternative determinations questionable. FIRO is a flexible water management strategy that uses improved weather and water forecasts to help water managers optimally retain or release water from reservoirs to increase resilience to both droughts and floods. As an example, during the 2020 water year, FIRO-informed operations were implemented at Lake Mendocino in the Russian River watershed resulting in a 19% increase in water storage, totaling more than 11,000 acre-feet. Similarly, for the Yuba and Feather River watersheds, FIRO research and agency operations partnerships (i.e., Yuba Water, Scripps Center for Western Weather and Water Extremes, DWR, U.S. Army Corps of Engineers, and others) were initiated in 2019 and have shown promising results for providing flood risk reduction and potential water supply benefits. The Yuba-Feather FIRO	Incorporating Forecast-Informed Reservoir Operations (FIRO) into modeled conditions is not feasible because coordinated reservoir operations and pre-release of stored water as informed by short-term runoff forecasts may affect reservoir operations at daily and hourly time scales and cannot be incorporated into the monthly planning model, CalSim 3 end-of-month, used for the Delta Conveyance Project EIR. During the flood season, CalSim 3 end-of-month simulated storage cannot exceed water control manual "guide curves" established by USACE for Section 7 reservoirs (U.S. Flood Control Act of 1944). The model is agnostic to daily or hourly operations that may occur within the month. Typically, water control diagrams are based on basin wetness indices and/or the historical likelihood of runoff events of a given magnitude. Skill in weather and streamflow forecasting may lead to more flexible flood control rules and the potential to increase reservoir storage during the refill season. However, incorporating reservoir forecasting into a monthly planning model would require USACE to amend their regulatory requirements. In the absence of these regulatory changes there is insufficient basis to incorporate FIRO into a monthly planning model that is used in support of an EIR and attempts to do so would be speculative. Similarly, FIRO was not incorporated into the projected future conditions because coordinated reservoir operations and pre-release of stored water are informed by short-term runoff forecasts based on daily and hourly time scales. A monthly planning model, CalSim 3 end-of-month, was used for the Delta Conveyance Project EIR, therefore a comparison of the two is infeasible for future conditions. CalSim 3 end-of-month simulated storage cannot exceed water control manual "guide curves" established by USACE for Section 7 reservoirs (U.S. Flood Control Act of 1944). The model is agnostic to daily or hourly operations that may occur within the month. Incorporating reservoir forecasting into a monthly planning model would require USACE to amend their regulatory requirements. In the absence of these regulatory changes there is insufficient basis to incorporate FIRO into a monthly planning model that is

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	partnership is the largest FIRO pilot project to date and focuses primarily on flood risk reduction and improved operations at two individual reservoirs (i.e., Lake Oroville and New Bullards Bar) operating as one system. It is also the first pilot project that includes watersheds with both rain- and snow-driven hydrology. The program has two primary elements: 1. Improve precipitation and runoff forecasts, specifically around large atmospheric river events; 2. Utilize and integrate the improved forecasts into new reservoir operations and increase operational flexibility. The increase in reservoir operational flexibility would potentially provide enhanced water supply and improved flood control or as an alternative project to the proposed tunnel. The implementation of the proposed projects and programs would have a significant impact on how the Delta would be managed and operated in the future including increased storage and water supplies, flood risk reduction, and enhanced ecosystem services. Nonetheless, most of these project activities were not considered in the DEIR for its future 2040 modeling.	used in support of an EIR and attempts to do so would be speculative. Also, please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the overall approach to the cumulative analysis.
552-98	[ATT 9:] Recommendations: 1. Having a good understanding of future extreme events due to climate change is critical to planning and design of this massive water resources project in the Delta that would span decades and cost billions of dollars. The Delta is sensitive and vulnerable to such extreme events (i.e., extended droughts and flooding) which would directly impact the proposed conveyance project, communities, levees, agriculture, water quality, and ecosystem system services. Therefore, it would be prudent to revisit the climate change modeling efforts and	Appendix 5A, Modeling Technical Appendix, Section B, Hydrology and Systems Operations Modeling, in the sections titled Hydrology and Extreme Conditions, and Attachment 4, Climate Change Development for Delta Conveyance Project, describe in details the modeling framework adopted in the EIR, including the development, application, and limitations (e.g., increasing frequency and intensity of wet and dry extreme events) of CalSim 3. Please see Common Response 9, Hydrologic Modeling and Approach, regarding best available tools, modeled representation of future conditions and climate change, modeled representation of CEQA baseline existing

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	evaluate other newly developed alternative climate models and approaches since the last model evaluation in 2015 that may be successfully implemented and incorporated into the CalSim 3 model regarding the increasing frequency and intensity of wet and dry extreme events among other drivers. Another option may be to construct physically plausible extreme events into the modeling as suggested by CCTAG (2015) as part of a comparative analysis. Without such updated climate change modeling, CalSim 3's future model projections could be either underestimated or overestimated due to the dynamic nature of the new climate change hydrology and thus undermining the confidence level of the model results.	conditions, and climate change assumptions as input into hydrologic model. Common Response 6, Climate Resilience and Adaptation, provides a discussion of climate change assumptions, scenarios, and timeframes DWR selected for inclusion in the EIR. The comment does not raise a significant environmental issue relating to the proposed project or address the adequacy, accuracy, or completeness of the EIR, therefore no further response is required.
552-99	[ATT 9:] Improving confidence in model results by quantifying model uncertainties or confidence intervals. Monthly time step model results and analysis are not meaningful and conclusive in assessing time sensitive impacts in real-world conditions. Additional strategies must be developed to resolute the model results in a finer time scale for meaningful and realistic impact assessments such as a similar or improved monthly-to-daily mapping technique described earlier that may be applied to estimate other parameters like water quality rather than flows.	The commenter has provided a statement of opinion regarding the use of CalSim 3 with a monthly timestep to characterize existing conditions and the subsequent use of CalSim 3 model outputs to analyze impacts of the Delta Conveyance Project or alternatives. The modeling used for the Draft EIR is based on the best available information at the time of the preparation of the Draft EIR. Common Response 9, Hydrologic Modeling and Approach, provides additional supporting discussion as to why the hydrologic modeling effort reflects the best available information.
552-100	[ATT 9:] Reviewing and evaluating all project alternatives originally considered comprehensively with updated data and information based on latest available science including costs and benefits analysis.	Please see responses to comments 552-94 and 552-95 regarding project alternatives. The analyses in the EIR provide substantial evidence to support DWR's impact conclusions, and no comprehensive re-analysis is required. CEQA does not require a cost-benefit analysis, however, DWR will prepare one to inform its policy decision whether to approve the proposed project or a project alternative.
552-101	[ATT 9:] Implementing the currently proposed potential projects and programs on the river system such as FIRO [Forecast Information Reservoir Operations], VA MOU, future updated	Please refer to Common Response 1, CEQA Process, General Approach to Analysis, and Other Environmental Review Issues, regarding the overall approach to the cumulative analysis. Please see response to comment 552-33 regarding FIRO. It is assumed the comment reference to "future

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	regulations, etc., would significantly affect the future operations and management of the State Water Project. Therefore, they should be considered and critically evaluated in the final EIR as part of the future conditions for CalSim 3 simulation runs and cumulative project impacts.	updated regulations" is referring to the State Water Board's Bay-Delta Water Quality Control Plan Updates on the Lower San Joaquin River and the Sacramento River, which are identified in Appendix 3C, and qualitatively considered in various resource analyses where appropriate. Please refer to Common Response 8, Relationship to Other Plans, Projects, Policies, and Programs, regarding Voluntary Agreements and the State Water Boards water quality control planning process.
552-102	[ATT 9:] REFERENCES Pierce, David W., Cayan, Daniel R., Thrasher, and Bridget L. (2014). Statistical Downscaling Using Localized Constructed Analogs (LOCA). Journal of Hydrometeorology, Volume 15, 2558 – 2582 (July 2014). Swain, Daniel L., Langenbrunner, Baird, Neelin, J. David, and Hall, Alex (2018). Increasing Precipitation Volatility in Twenty-first Century California. Nature Climate Change 8, 427-433 (2018). Huang, Xingying, Swain, Daniel, and Hall, Alex (2020) Future Precipitation Increase from Very High Resolution Ensemble Downscaling of Extreme Atmospheric River Storms in California, Science Advances, Vol 6, Issue 29 (15 July 2020) California Department of Water Resources, Climate Change Technical Advisory Group (CCTAG) (2015). Perspectives and Guidance for Climate Change Analysis. A report representing the preliminary findings from 2012-2015 by DWR's expert external advisory committee, the Climate Change Technical Advisory Group, on global climate model selection appropriate for California water resources, planning for extreme conditions, downscaling, and recommendations for future work. (August 2015)	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.

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552-103	[ATT 10: Research article from the "Journal of Ecohydraulics" written by Charles C. Coutant in 2020, titled "Why cylindrical screens in the Columbia River (USA) entrain few fish". The article discusses the features of fish screens in the Columbia River that minimize fish entrainment.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-104	[ATT 11: Document titled "Analysis of River Bends and Fish Migration". The document discusses distribution of out-migrating fish along the Sacramento River bends.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-105	[ATT 12: A letter presenting the findings of the Delta Conveyance Intakes Independent Technical Review (ITR) Panel from its March 17-19, 2020 Skype meeting. Representatives from (DWR), the Delta Conveyance Office (DCO), Jacobs Engineering (Delta Conveyance Authority's, DCA's, Engineering Design Manager/Contractor), and ICF participated in the meeting.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-106	[ATT 13: Curriculum Vitae for Bruce Herbold, Ph.D.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter. DWR has reviewed all comments and will consider all comments in its decision-making process.
552-107	[ATT 14: Research article from the journal "San Francisco Estuary and Watershed Science" written by Herbold et al. (2022), titled "Climate Change Impacts on San Francisco Estuary Aquatic Ecosystems: A Review".]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-108	[ATT 15: National Oceanic and Atmospheric Administration (NOAA) Fisheries West Coast Region (WCR) Anadromous Salmonid Passage Design Manual, dated 2022.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-109	[ATT 16: Document by the Public Policy Institute Center (PPIC) titled "Water Policy Center titled "Priorities for California's Water - Thriving with Less" dated November 2022.]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter. Please see Common Response 6, Climate Resilience and Adaptation, and

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		Chapter 30, Climate Change, regarding the analysis of future climate change impacts in the EIR.
552-110	[ATT 17: Document from the Washington Department of Fish and Wildlife, April 25, 2020, titled "Fish Protection Screen Guidelines for Washington State".]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to the commenter's letter.
552-111	[ATT 18: Document from DWR and Climate Change Technical Advisory Group (CCTAG) from August 2015 titled "Perspectives and Guidance for Climate Change Analysis".]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter. Please see Common Response 6, Climate Resilience and Adaptation, and Chapter 30, Climate Change, regarding the analysis of future climate change impacts in the EIR. Please see Common Response 9, Hydrologic Modeling and Approach, regarding the use of best available tools (e.g., model assumptions, uncertainties, and limitations) and modeled representation of future conditions and climate change predictions (e.g., stationarity) in the EIR. Additionally, Appendix 5A, Modeling Technical Appendix, describes how climate change was modeled.
552-112	[ATT 19: Research article from the journal "Science Advances" written by Xingying Huang, Daniel L. Swain, Alex D. Hall in 2020, titled "Future precipitation increase from very high-resolution ensemble downscaling of extreme atmospheric river storms in California".]	The attachment provides an example of non-stationarity and dynamic downscaling implementation. Please see the response to comment 552-86 regarding the modeling framework described in the EIR, including the use of statistical downscaling.
552-113	[ATT 20: Research article from the "Journal of Hydrometeorology" written by Daniel W. Pierce, Daniel R. Cayan and Bridget L. Thrasher in 2014, titled "Statistical Downscaling Using Localized Constructed Analogs (LOCA)".]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter. Please see the response to comment 552-86 regarding the use of best available tools and information at the time of the analysis and the

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		modeling framework described in the EIR, including the use of statistical downscaling and stationarity in the EIR.
552-114	[ATT 21: Research article from the journal "Nature Climate Change" written by Daniel L. Swain, Baird Langenbrunner, J. David Neelin and Alex Hall in 2018, titled "Increasing precipitation volatility in twenty-first century California".]	The commenter is providing this exhibit in support of their comments. Those comments are addressed in these responses to the commenter's letter. Please see the response to comment 552-83 and the response to comment 552-81 regarding consideration in the EIR of the effect of potentially hotter, drier future conditions, including changes in precipitation and hydrology, on the project and on environmental resources. Please see the response to comment 552-86 regarding the modeling framework described in the EIR.
556-1	The California Department of Water Resources (DWR) released the Draft Environmental Impact Report (Draft EIR) for the Delta Conveyance project for public review and comment on July 27, 2022. The Contra Costa Transportation Authority (Authority) takes this opportunity to submit comments on the Draft EIR. The Authority serves as Contra Costa's designated Congestion Management Agency (CMA), responsible for putting programs in place to keep traffic levels manageable. The Authority is also responsible for funding, planning, and delivering critical transportation projects and programs that connect our communities, foster strong economy, increase sustainability, and safely and efficiently get people where they need to go.	This information provides background of the organization. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
556-2	The Authority entered into a Memorandum of Understanding (MOU) with Contra Costa County and a Cooperative Agreement with the California Department of Transportation (Caltrans) to be the Implementing Agency for completing the Environmental Document and Project Approval (PAED) Phase for the State Route 239 (SR239) project. SR239 was legislated in 1959 to provide a transportation connection between State Route 4 in	Prior to construction of the Delta Conveyance Project and associated improvements in the vicinity of the proposed State Route 239 Project, Geometric Approval Drawings would be developed by DWR for review and comment by the Contra Costa County Transportation Authority. The Authority's comments will be addressed by DWR to ensure that the Delta Conveyance Project and the State Route 239 Project are designed and constructed collaboratively.

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	the City of Brentwood to Interstate 205 and/or Interstate 580 west of City of Tracy. The PAED work for the SR239 project is ongoing and the currently identified project alternatives (SR239 Alternatives) would traverse the area in the vicinity of the proposed Bethany Complex of the Delta Conveyance project. The footprint of the SR239 Alternatives, in the form of a kmz file, was transmitted to the Delta Conveyance team on November 11, 2022. The Delta Conveyance Project Draft EIR shows that nine alternatives were studied and Alternative 5, the Bethany Reservoir Alignment, is currently considered as the proposed project (Proposed Project). The Authority's review and comments are limited to the geometric compatibility with the SR239 Alternatives. As each of the nine alternatives studied in the Draft EIR appears to conflict with the SR239 Alternatives to varying degrees, the Authority's comments only cover the Proposed Project in order to be concise and succinct. In the event that the Delta Conveyance project proceeds with a different alternative, the Authority [Contra Costa County Transportation] reserves the rights to submit additional comments pertaining to the final selected alternative.	
556-3	The Authority's [Contra Costa County Transportation] comments are as follows: Bethany Reservoir Pipeline/Tunnel - The pipeline/tunnel crosses Byron Highway and the SR239 alignments currently being studied. As such, the pipeline/tunnel and its ancillary facilities should be designed and constructed to support an at-grade roadway. Any right-of-way obtained for the Proposed Project should not preclude the construction of the SR239 Project.	Prior to construction of the improvements that cross Byron Highway, Geometric Approval Drawings would be developed by DWR for review, comment, refinement, and approval by the Contra Costa County Transportation Authority. These improvements would not preclude the construction of an at-grade State Route 239 Project.

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556-4	The Authority's [Contra Costa County Transportation] comments are as follows: Access Roads - The SR239 project will require the realignment of roadways in the Byron and Tracy areas including how these roadways access Byron Highway, Kelso Road, and Grant Line Road. The Authority requests to coordinate with DWR to ensure compatibility between the Proposed Project and the SR239 project.	Please refer to the responses to comments 556-2 and 556-3, which explains that DWR will coordinate the design of roadway improvements with Contra Costa County Transportation Authority prior to construction.
556-5	The Authority's [Contra Costa County Transportation] comments are as follows: Utilities - The completed SR239 project will become part of the California State Highway System. Therefore, any utilities constructed or placed for the purpose of serving the Proposed Project should not preclude the future incorporation of the completed SR239 project into the State Highway System.	It is not anticipated that utilities constructed for Alternatives 1 through 4 would interfere with SR 239. However, Alternative 5, which would include the Bethany Complex for the Delta Conveyance Project, would include a water supply line that would be constructed on the eastern side of the existing Byron Highway between the Bethany Complex to the California Aqueduct. The design of this pipeline would be coordinated with Contra Costa County Transportation Authority. Please also see responses to comments 556-2 and 556-3 for additional information on DWR's approach to collaboration.
556-6	The Authority's [Contra Costa County Transportation] comments are as follows: Bethany Reservoir Pumping Plant - The proposed Pumping Plant appears to be located in close proximity to the SR239 alignments currently being studied. Based on previously released information about the Delta Conveyance project, the permanent footprint of the Pumping Plant would be compatible with the SR239 project. However, the construction yards will conflict with the SR239 project. The Draft EIR shows the Pumping Plant to be constructed between Year 4 and Year 11. It is possible that the construction durations of the SR239 project and the Proposed Project will overlap. Therefore, the Authority requests that the Proposed Project consider relocating the construction yards to the west	Prior to construction of the Bethany Reservoir Pumping Plant improvements, Geometric Approval Drawings would be developed by DWR for review, comment, refinement, and approval by the Contra Costa County Transportation Authority that take into account the Authority's request that the proposed project's construction yards be relocated to the west of the Surge Basin. If the construction yards cannot be relocated, DWR will coordinate with the Authority on the timing and use of the construction yards to reduce conflicts with the State Route 239 Project.

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	of the Surge Basin. If the Proposed Project elects not to relocate the yards, the Authority requests that the DWR coordinate with the Authority on the final locations and timing on the use of the construction yards.	
556-7	The Authority [Contra Costa County Transportation] appreciates the opportunity to comment on the Draft EIR for the Delta Conveyance project. If you have any questions, require further information, or would like to discuss these comments, please contact me by e-mail or by phone	This information is general closing text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
557-1	The Tehama-Colusa Canal Authority ("TCCA") is a joint exercise of powers agency comprised of eighteen water districts and companies that receive water from the federal Central Valley Project ("CVP") and that are located in the counties of Colusa, Glenn, Tehama, and Yolo. TCCA was formed in order to secure a reliable water supply that would meet the needs of its member agencies, as well as exercising rights to water originating in the Sacramento Valley.	This information describes the background of the organization or individual commenter. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.
557-2	TCCA [Tehama-Colusa Canal Authority] has reviewed California Department of Water Resources' ("DWR") Draft Environmental Impact Report for the Delta Conveyance Project ("Draft EIR"). In an effort to assist DWR's efforts toward adequate environmental review and to improve TCCA's understanding of the impacts of the proposed project on the environment, TCCA offers these comments on the Draft EIR. TCCA hereby incorporates by reference and joins the comments on the Draft EIR submitted by the Sacramento River Settlement Contractors ("Settlement Contractors") dated December 16, 2022 as though fully stated herein.	This information describes the structure or organization of the comment letter, the background of the organization or individual commenter, clarification on the submittal of the comment letter, or general introductory text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process. Please refer to Volume 2, Chapter 2, Indices of Commenters and Index of Primary Forms, to locate the letter numbers of comments provided by other entities that are of interest. Responses to all comment letters are provided in Volume 2, Chapter 4, Response to Comments Tables.
557-3	TCCA [Tehama-Colusa Canal Authority] encourages DWR [Department of Water Resources] to specifically identify the volume of water that may be diverted north of the Delta under	As described in Common Response 3, Alternatives Development and Description, the Delta Conveyance Project's operations do not include changes to State Water Project or Central Valley Project operations

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	the proposed project so that it can fully analyze the potential impacts to water supplies and the environment in the Sacramento Valley. TCCA is concerned that the Draft EIR has not fully analyzed the impact of reduced surface water supplies on groundwater supplies and groundwater quality in TCCA's service area, which overlies the Sacramento Valley Basin. As detailed by the Settlement Contractors' comment letter and attachments thereto, increased diversions enabled by the proposed project may result in reduced surface water deliveries to CVP (Central Valley Project) contractors. TCCA members rely on the availability of surface water either under their own CVP contracts or from transfers from other CVP contractors pursuant to TCCA's In-Basin Transfer Program. It is reasonably foreseeable that operation of the proposed project may result in reduced CVP deliveries of surface water, thereby resulting in increased groundwater pumping by CVP contractors overlying the Redding Area Groundwater Basin and Sacramento Valley Groundwater Basin to offset reduced surface water supplies. TCCA requests that DWR identify and analyze the full extent of impacts that the proposed project will have on groundwater as a result of reduced surface supplies in the Sacramento Valley.	upstream of the proposed north Delta intakes. As described in Chapter 2, Purpose and Project Objectives, the purpose of the Delta Conveyance Project is to restore and protect the reliability of the State Water Project water deliveries and potentially Central Valley Project water deliveries south of the Sacramento-San Joaquin Delta. Areas upstream of the Delta where modeling indicates a potential change as a result of project alternatives are discussed in Chapter 6, Water Supply. No supply changes are anticipated for the Tehama-Colusa Canal Authority. Chapter 5, Surface Water, also provides a summary of the hydrologic modeling conducted for the proposed project and alternatives and concluded that there would be no upstream changes in river flows or reservoir storage. Chapter 5 also includes a series of appendices which documents this conclusion. As described in Chapter 6, the long-term average annual total CVP deliveries for all project alternatives are expected to remain essentially the same. Refer to the table titled Water Supply Summary, Changes to Water Supply by the Project Alternatives, Geographic Area, and User, Shown in Thousand Acre-Feet and Resulting Percentages, as Compared to Existing Conditions (2020 Hydrology) for details about total CVP deliveries under each project alternative. As discussed in Chapter 8, Groundwater, there would be no change attributable to the project in groundwater conditions upstream of the north Delta intakes. Please see Chapter 1, Introduction, for a description of the State Water Project and background information regarding how water supply has been developed and managed in California.
557-4	Thank you for your attention to these comments.	This information is general closing text. It is not a comment on the contents of the Draft EIR. DWR has reviewed all comments and will consider all comments in its decision-making process.