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# RE: Comments on the Draft Environmental Impact Report for the Delta Conveyance Project

Department of Water Resources - Delta Conveyance Office:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Report (DEIR) for the Department of Water Resources (DWR) Delta Conveyance Project (project). The Delta Stewardship Council (Council) understands the stated purpose of the project is to develop new diversion and conveyance facilities in the Sacramento-San Joaquin Delta (Delta) in order to ensure a reliable water supply south of the Delta. Stated project objectives include, but are not limited to: addressing anticipated rising sea levels and other reasonably foreseeable consequences of climate change and extreme weather events; minimizing potential for health and safety impacts from reduced quantity and quality of water deliveries south of the Delta resulting from a major earthquake; protecting the ability of the State Water Project (SWP) (and potentially the Central

Valley Project (CVP)) to deliver water under varying hydrologic and regulatory conditions; and providing operational flexibility to improve aquatic conditions in the Delta and better manage impacts of further regulatory conditions on SWP (and potentially CVP) operations (DEIR, Chapter 2, pp. 2-2—2-3).

The Council is an independent state agency established by the Sacramento-San Joaquin Delta Reform Act of 2009, codified in Division 35 of the California Water Code, sections 85000-85350 (Delta Reform Act). The Delta Reform Act charges the Council with furthering California's coequal goals of providing a more reliable water supply and protecting, restoring, and enhancing the Delta ecosystem, to be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place. (Wat. Code, § 85054.)

Pursuant to the Delta Reform Act, the Council has adopted the Delta Plan, a management framework for the Delta and Suisun Marsh for achieving the coequal goals. The Delta Reform Act grants the Council specific regulatory and appellate authority over certain actions that take place in whole or in part in the Delta and Suisun Marsh, referred to as "covered actions." (Wat. Code, §§ 85022(a) and 85057.5.) The Council exercises that authority through the Delta Plan's regulatory policies (set forth in Title 23 of the California Code of Regulations, Sections 5002 through 5015). State and local agencies are required to demonstrate consistency with Delta Plan policies when carrying out, approving, or funding a covered action. (Wat. Code, §§ 85057.5 and 85225.) In addition, the Delta Plan contains recommendations, which are not part of the covered actions process, but articulate actions that the Council strongly encourages agencies to undertake.

## Covered Action Determination and Certification of Consistency with the Delta Plan

Water Code section 85057.5(a) provides a multi-part test to define what activities would be considered covered actions. Based on the project location and scope described in the DEIR, the project appears to meet the definition of a covered action because it:

 Will occur in whole or in part within the boundaries of the Delta, as defined under Section 12220 of the Water Code, or Suisun Marsh, as defined under Section 29101 of the Public Resources Code. The proposed project alignments (i.e., central tunnel corridor and eastern tunnel corridor) and

- facilities (i.e., intakes, tunnel reaches and shafts, forebays, pumping plant, and South Delta conveyance facilities) would be located in the Delta.
- 2. <u>Will be carried out, approved, or funded by the state or a local public agency.</u> DWR, a State agency, would carry out and approve the project.
- 3. Will have a significant impact on the achievement of one or both of the coequal goals or the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta. The project would construct and operate new conveyance facilities in the Delta, including a single-tunnel facility designed to increase reliability of water supply, and would add to existing state water project infrastructure. The project proposes new north Delta facilities to convey up to 7,500 cfs of water from the Sacramento River to the SWP facilities in the south Delta to increase reliability of water supply under varying earthquake, climate change, and regulatory conditions. It would also include mitigation and operational characteristics that would contribute to ecosystem restoration. Therefore, the project would have a significant impact on achievement of both of the coequal goals.
- 4. <u>Is covered by one or more of the regulatory policies contained in the Delta Plan</u> (Cal. Code Regs., tit. 23, §§ 5003-5015). Delta Plan regulatory policies that may apply to the project are discussed below.

## Comments Regarding Delta Plan Policies and Potential Consistency Certification

The following information is offered to assist DWR in preparing the Final EIR (FEIR) and an eventual certification of consistency for the project. While not all documentation for a certification of consistency may be relevant or required for the FEIR, we include additional comments that are not specific to California Environmental Quality Act (CEQA) requirements within this letter. This is because some approaches or documentation (such as detailed hydrologic modeling) would be difficult to conduct again after analysis is completed to support the FEIR, and it may be more efficient to include such information in the FEIR, if not already present.

We also acknowledge that the DEIR baseline and environmental setting was established to correspond to the release of the Notice of Preparation (NOP) in January 2020. We have focused our comments and consideration of potential impacts identified in the DEIR to be aligned with this baseline.

The comment letter describes regulatory Delta Plan policies that may apply to the project based on the available information in the DEIR. The information below may also assist DWR in describing the relationship between the proposed project and the Delta Plan in the FEIR.

## General Policy 1: Detailed Finding to Establish Consistency with the Delta Plan

Delta Plan Policy **G P1** (Cal. Code Regs., tit. 23, § 5002) specifies what must be addressed in a certification of consistency for a covered action. The following is a subset of Policy G P1 requirements that a project must meet to be considered consistent with the Delta Plan:

## Coequal Goals

Delta Plan Policy **G P1, subsection (b)(1)** (Cal. Code Regs., tit. 23, § 5002, subd. (b)(1)), requires that covered actions, in order to be consistent with the Delta Plan, must be consistent with G P1 and with each of the applicable Delta Plan regulatory policies implicated by the covered action. In certain situations where full consistency with all relevant regulatory policies may not be feasible, Delta Plan Policy **G P1, subsection (b)(1)**, allows for covered actions, in a certification of consistency, to include a specified determination that despite inconsistency with one or more Delta Plan policies, the covered action is consistent with the Delta Plan because, on the whole, it is consistent with the coequal goals. That determination must include a clear identification of areas where consistency with relevant regulatory policies is not feasible, an explanation of the reasons why it is not feasible, and an explanation of how the covered action nevertheless, on whole, is consistent with the coequal goals.

In the event that DWR believes that consistency with all applicable regulatory policies may not be feasible, DWR should consider analyzing and documenting potential impacts – positive or negative – on the coequal goals and provide the specific information required by GP 1(b)(1) in the record. The Council acknowledges that this information goes beyond that required by CEQA. However, the certification of consistency will need to be supported by substantial evidence in the record. It may be useful to describe the impacts of the project to the public in the FEIR to establish a record for a future certification of consistency. If the impacts are not analyzed in the FEIR, it may

be helpful to include information that would support findings for a future certification of consistency relative to the coequal goals.

### Mitigation Measures

Delta Plan Policy **G P1, subsection (b)(2)** (Cal. Code Regs., tit. 23, § 5002, subd. (b)(2)) requires that actions not exempt from CEQA and subject to Delta Plan regulations must include all applicable feasible mitigation measures adopted and incorporated into the Delta Plan as amended April 26, 2018, or substitute mitigation measures that are equally or more effective. Mitigation measures adopted and incorporated into the Delta Plan are listed in the Delta Plan's Mitigation Monitoring and Reporting Program (Delta Plan MMRP) and are available at: <a href="https://www.deltacouncil.ca.gov/pdf/delta-plan/2018-appendix-o-mitigation-monitoring-and-reporting-program.pdf">https://www.deltacouncil.ca.gov/pdf/delta-plan/2018-appendix-o-mitigation-monitoring-and-reporting-program.pdf</a>.

As the Council has previously commented on the July 2021 NOP for this project, DWR should review the Delta Plan MMRP and apply the applicable feasible mitigation measures adopted and incorporated into the Delta Plan, or substitute mitigation measures that are equally or more effective. The Draft EIR identifies a number of significant impacts that require mitigation, and less than significant impacts where incorporation of mitigation would lessen impacts. Council staff reviewed the proposed mitigation measures in the DEIR, as well as the measures outlined in Appendix 3B Environmental Commitments and Best Management Practices, and Appendix 3F Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources. Based on this review, we offer the following comments:

■ **Delta Plan Mitigation Measure 3-2** requires, prior to construction, "a survey… of all wells located adjacent to the construction site to determine locations and depths of wells and the groundwater surface." DEIR Chapter 3, Description of the Proposed Project and Alternatives, describes the use and construction of launch and reception shafts, which would require dewatering activities, as well as post-construction activities. Additionally, in-water or open trenching construction activities related to the project may also require dewatering activities. If significant impacts to local wells or groundwater surfaces are identified in the FEIR, Delta Plan Mitigation Measure 3-2 would apply to the project and should be included in the FEIR as a mitigation measure. Delta Plan Mitigation Measure 3-2

- describes actions to implement, monitor, and reduce impacts to any local wells or groundwater surfaces from such project activities.
- Delta Plan Mitigation Measure 7-1 requires the establishment of "buffer areas between projects and adjacent agricultural land that are sufficient to protect and maintain land capability and agricultural operation flexibility." Although many proposed project features will be located adjacent to agricultural land, we could not locate a description of buffer areas that would protect adjacent agricultural land within the project design, within the environmental commitments and best management practices, or within the proposed mitigation measures. If impacts are identified, the FEIR should include a mitigation measure that requires buffer areas between project features and adjacent agricultural land that are sufficient to protect and maintain land capability and agricultural operation flexibility.
- Delta Plan Mitigation Measure 8-1 requires mitigation for certain visual impacts. In order to better align with Mitigation Measure 8-1, DEIR Mitigation Measures AES-1b and AES-1c should include a requirement for development and approval of a post-construction restoration landscaping plan(s) to reduce the aesthetic impacts within a scenic corridor, identified within the EIR Aesthetic and Visual Resources Chapter. Alternatively, the EIR could include an alternative mitigation measure that is equally or more effective than Delta Plan Mitigation Measure 8-1.
- Delta Plan Mitigation Measure 11-6 requires ecosystem restoration projects to include practices that address seepage of nuisance water onto adjacent lands such as performing seepage monitoring studies, developing a seepage monitoring plan, and implementing seepage control measures. We could not locate within the DEIR a mitigation measure that would addresses seepage of nuisance water onto adjacent lands. The FEIR should include an appropriate mitigation measure, if impacts are identified.
- **Delta Plan Mitigation Measure 21-3** requires that projects "prepare a drainage or hydrology and hydraulics study that would assess the need and provide a basis for the design for ecosystem habitat restoration, including adjacent areas that would allow for migration of the habitat to higher elevations as the surface water elevations increase." The DEIR includes compensatory mitigation options that consider sea level rise, sea level rise accommodation, elevation and climate change for special-status species. However, we could not

identify measures in the DEIR that would require a drainage or hydrology and hydraulics study to inform ecosystem habitat restoration design. Although this may be implied by the inclusion of mitigation options, the FEIR should describe if such studies are warranted for habitat restoration associated with the project, and should include, if applicable, mitigation measures that are equally or more effective than Delta Plan Mitigation Measure 21-3.

#### Best Available Science

Delta Plan Policy **G P1, subsection (b)(3)** (Cal. Code Regs., tit. 23, § 5002, subd. (b)(3)) states that covered actions must document use of best available science as relevant to the purpose and nature of the project. The regulatory definition of "best available science" is provided in Appendix 1A of the Delta Plan (https://www.deltacouncil.ca.gov/pdf/delta-plan/2015-appendix-1a.pdf). Six criteria are included in Appendix 1A: relevance, inclusiveness, objectivity, transparency and openness, timeliness, and peer review. (Cal. Code Regs, tit. 23, § 5001, subd. (f).) This policy requires that the lead agency clearly document and communicate the processes and information used for analyzing project alternatives, impacts, and mitigation measures of proposed projects, in order to foster improved understanding and decision making.

The criteria for best available science from Table 1A-1 of the Delta Plan can be summarized as follows:

- Relevance requires that scientific information used should be, as available, germane to the Delta ecosystem and/or biological and physical components (and/or processes) affected by the proposed decisions. It also requires that quality and relevance of data and information be addressed.
- **Inclusiveness** requires that scientific information used shall incorporate a thorough review of relevant information and analyses across relevant disciplines.
- **Objectivity** requires that data collection and analyses considered shall meet the standards of the scientific method and be void of nonscientific influences and considerations.
- **Transparency and openness** require that sources and methods for analysis are clearly identified and explained, as are limitations and uncertainties.

- **Timeliness** requires that data collection shall occur in a manner sufficient for adequate analyses before a management decision is needed, and that scientific information used be applicable to current situations.
- **Peer review** establishes independent external review as the highest standard for ensuring the quality of the science and requires that it is applied to proposed projects and final project plans. Peer review should also be applied to project outcomes and products as appropriate.

Council staff reviewed the DEIR relative to these criteria, and our comments related to best available science are provided as Attachment 1 to this letter. The comments in <a href="Attachment 1">Attachment 1</a> of this letter are not a comprehensive listing of all possible relevant issues with respect to **G P1(b)(3)**, and the absence of a comment in this letter is not an endorsement that the DEIR demonstrates the use of best available science.

## Adaptive Management

Delta Plan Policy **G P1, subsection (b)(4)** (Cal. Code Regs., § 5002, subd. (b)(4)), requires that ecosystem restoration and water management covered actions include adequate provisions, appropriate to the scope of the action, to assure continued implementation of adaptive management. This requirement is satisfied through: a) the development of an adaptive management plan that is consistent with the framework described in Appendix 1B of the Delta Plan (<a href="https://deltacouncil.ca.gov/pdf/delta-plan/2013-appendix-b-combined.pdf">https://deltacouncil.ca.gov/pdf/delta-plan/2013-appendix-b-combined.pdf</a>), and b) documentation of adequate resources to implement the proposed adaptive management plan.

Considering the water management components of the project, the project will require an adaptive management plan (or plans) that addresses project construction activities, implementation and mitigation, and ongoing operations to comply with Delta Plan Policy G P1, subsection (b)(4). Because this Delta Plan requirement is not a CEQA requirement. we acknowledge that much of what may constitute an adaptive management plan in the record for the Delta Plan certification is not available for review at this time. For aspects of the adaptive management approach that are described in the DEIR, we offer comments below.

The DEIR describes an Operations Adaptive Management and Monitoring Plan (OAMMP), which "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." This OAMMP appears to be the means DWR will use to demonstrate a comprehensive adaptive management approach for future operation of the project. This document should outline potential uncertainties related to project effects, the scientific basis for addressing those uncertainties, the programmatic structure for integrating monitoring results into the management process, and a clear statement of how adaptive management of project operations will be staffed and funded.

In addition to the OAMMP, DWR should also consider preparing a plan for how it will adaptively manage construction impacts and mitigation to meet project goals and comply with regulations. For example, DEIR Appendix 3B, section 3B.1.4 describes sediment control measures that will be enacted during construction, but does not describe how these control measures could change if they are not having the intended effect. An adaptive management plan would help to ensure that the control measures are effective. The description of the plan to monitor and manage sediment during operation of the proposed project in order to protect habitat for Delta smelt (found in section 3B.1.16) provides an example that could be used as a basis for adaptive management focused on mitigating potential construction impacts.

Future ecosystem restoration undertaken as mitigation for project impacts should also be guided by an adaptive management plan. In the case that those actions are themselves separate covered actions, the adaptive management plan would be required as part of the certification process for those covered actions. For mitigation activities that are not a separate covered action, adaptive management should be addressed in the certification of consistency for this project.

# Water Resources Policy 1: Reduce Reliance on the Delta through Improved Regional Water Self-Reliance

Delta Plan Policy **WR P1** (Cal. Code Regs., tit. 23, § 5003) requires proposed actions that export water from, transfer water through, or use water in the Delta to contribute to reduced reliance on the Delta and improve regional self-reliance.

The DEIR states that the project will restore and protect water supply reliability by constructing new facilities, including an isolated conveyance facility to be used in

conjunction with existing through-Delta conveyance. The Council understands that, as proposed, the project would not alter existing water rights or contractual amounts. However, because the project proposes to export water from and transfer water through the Delta, WR P1 applies to the project.

We acknowledge that at this time DWR may not know the details of all water suppliers' involvement, including potential federal involvement, and that **WR P1** is not a CEQA requirement. However, information to document contribution to reduced reliance could be included in the FEIR and more clearly describe potential project impacts to a range of areas. DWR should identify in detail all water suppliers (defined as both wholesalers and retailers) that would receive water from the Delta as a result of the project, identify in detail how those suppliers have adequately contributed to reduced reliance on the Delta, and describe how each has improved regional self-reliance as required by **WR P1**.

For purposes of **WR P1**, the information provided for each water supplier should include: (1) whether the supplier has adopted a current Urban or Agricultural Water Management Plan reviewed and approved by DWR; (2) identification, evaluation, and commencement of implementation activities identified in an Urban or Agricultural Water Management Plan that would reduce reliance on the Delta; and (3) the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance as a percentage or amount of water, drawn from the Urban or Agricultural Water Management Plan. DWR should ensure that the record supporting a future certification of consistency for the project specifically addresses the following items:

- List each urban and agricultural water supplier that would receive water as a result of the project.
- Include quantifiable data documenting reduced reliance, as described by this policy.
- Analyze reduced reliance under different alternatives and export scenarios, in light of the current range in physical project capacity described in the DEIR (6,000 cfs with a potential for up to 7,500 cfs, with potentially lower amounts depending on operational scenarios).

The Council notes that DWR prepared and distributed an example methodology describing how water suppliers could quantify reduced reliance on the Delta as Appendix C to its 2020 Urban Water Management Plan Guidebook (https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-

Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans/Final-2020-UWMP-Guidebook/UWMP-Guidebook-2020---Final-032921.pdf) and as Section A1.C of its 2020 Agricultural Management Plan Guidebook (<a href="https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Agricultural-Water-Use-Efficiency/Files/Draft-2020-AWMP-Guidebook.pdf">https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Agricultural-Water-Use-Efficiency/Files/Draft-2020-AWMP-Guidebook.pdf</a>). These example methodologies identify how documenting reduced reliance on the Delta and improved regional self-reliance at the water supplier level is both practical and possible. DWR and water suppliers should use these or similar methodologies extensively for this project.

It is also not clear how the Central Valley Project (CVP) may or may not be involved in the project. The FEIR should clarify involvement of the federal government and CVP and describe which CVP water suppliers would receive water as a result of the project and include the information as described above. If the project will provide water to a CVP water supplier, the requirements of WR P1 will apply to these suppliers as well.

## Water Resources Policy 2: Transparency in Water Contracting

As described in the DEIR, State Water Project (SWP) contract amendments are part of the project. DWR states that the DEIR "also analyzes related amendments to the long-term water supply contracts that may be needed", and that "[t]he contract amendments, as they would directly relate to contract terms and conditions applicable to cost allocation for the Delta Conveyance Project, do not have different impacts from those analyzed for the Delta Conveyance Project" (DEIR, Chapter 3, Description of the Proposed Project and Alternatives, p. 3-1 and p. 3-165). The DEIR describes that DWR and local agencies that contract to receive water (referred to as Public Water Agencies or PWAs) have developed an Agreement in Principle (AIP). This AIP covers conceptual approaches to cost allocations and related financial and water management regarding the project (DEIR, Chapter 3, p. 3-164).

Delta Plan Policy **WR P2** (Cal. Code Regs., tit. 23, § 5004) requires that the contracting process for water from the SWP and/or the CVP be conducted in a publicly transparent manner consistent with applicable DWR and Bureau of Reclamation (Reclamation) policies. For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of Chapter 3 of the Delta Plan, this policy covers the following:

- (1) With regard to water from the State Water Project, a proposed action to enter into or amend a water supply or water transfer contract subject to California Department of Water Resources Guidelines 03-09 and/or 03-10 (each dated July 3, 2003); and
- (2) With regard to water from the Central Valley Project, a proposed action to enter into or amend a water supply or water transfer contract subject to section 226 of P.L. 97-293, as amended or section 3405(a)(2)(B) of the Central Valley Project Improvement Act, Title XXXIV of Public Law 102-575, as amended, and Rules and Regulations promulgated by the Secretary of the Interior to implement these laws.

The Bethany Reservoir alternative was not identified as a project alternative when the existing AIP was developed, and the potential involvement of CVP contractors remains unclear. Either of these conditions may require new terms within the AIP, which would be subject to **WR P2** requirements and might require new public negotiation meetings and public notifications in accordance with DWR guidelines 03-09 and 03-10 and Reclamation guidelines identified in Public Law 97-293 Title II, Reclamation Act of 1982, Section 226, Public Participation.

For existing and any new contract agreements identified as part of the project, DWR should provide thorough documentation of the advance noticing of public meetings, the opportunity for public observation of the negotiations, and describe how the negotiations were conducted in a public environment, to support the record for a future certification of consistency, as described above in the applicability of this policy and guidelines. This information may be provided in the FEIR or via another means within the certification record.

Lastly, although not a regulatory requirement, the Council encourages DWR to add a provision to its water contracts regarding reduced reliance on the Delta as stated in Delta Plan recommendation (WR R2): "[DWR] should include a provision in all [SWP] contracts, contract amendments, contract renewals, and water transfer agreements that requires the implementation of all State water efficiency and water management laws, goals, and regulations, including compliance with Water Code section 85021."

## Ecosystem Restoration Policy 1: Delta Flow Objectives

Delta Plan Policy **ER P1** (Cal. Code Regs., tit. 23, § 5005) requires the State Water Resources Control Board's (Water Board) Bay-Delta Water Quality Control Plan flow

objectives be used to determine consistency with the Delta Plan for a project that could significantly affect flow in the Delta. This policy applies to the project because the project proposes new intakes at two locations along the Sacramento River, with an alternative for a third intake, which have the potential to significantly affect flow. Even under the No Project Alternative, flows are projected to change significantly at certain locations, especially in wet and dry water year types and under certain operational conditions (for example, as described in Appendix 5C, Table 5C-2, p. 5C-3). As noted in the DEIR, annual average surface water flows in the Delta could change relatively little, depending on the selected alternative (e.g., DEIR, Chapter 5, p. 5-3, Table 5.0). However, larger relative changes would occur within seasons.

The DEIR analyzes how the project may impact or alter Delta flows that are subject to the Bay-Delta Water Quality Control Plan flow objectives. This includes analysis under a range of projected climate impacts and compliance with current flow objectives, described by Water Board Decision 1641 (D-1641). In the DEIR, DWR states that the CalSim3 model was used to assess simulated monthly flows and that no changes were assumed for operational rules (DEIR, Appendix 5C, p. 5C-1). The DEIR also includes statements that although project alternatives could potentially result in higher electrical conductivity at some locations, the project alternatives "would not cause more frequent exceedance of the Bay-Delta WQCP [Water Quality Control Plan] water quality objectives for protection of agricultural, and fish and wildlife beneficial uses" (DEIR, Chapter 9, Water Quality, p. 9-3). While flow objectives are currently described by D-1641, the Water Board is undertaking updates to the Bay-Delta Water Quality Control Plan. In addition, the ongoing voluntary agreements process could influence flow objectives on a timeline similar to the FEIR. The DEIR includes sensitivity analyses that analyze potential compliance with regulations under theoretical flow requirements. This includes some, but not all, provisions from the Voluntary Agreement March 2022 Memorandum of Understanding (DEIR, Appendix 4C, p. 4C-1). These sensitivity analyses are useful. However, if specific changes are made to relevant flow objectives, the future certification should document the project's ability to meet the specific requirements of the Bay-Delta Water Quality Control Plan, as it exists at that time.

Separate from the FEIR, the Council advises DWR to submit a petition for and obtain a Change in Point of Diversion from the Water Board prior to submitting a certification of consistency to the Council. Such documentation would provide clear documentation describing how DWR would comply with applicable standards.

## Ecosystem Restoration Policy 2: Restore Habitats at Appropriate Elevations

Delta Plan Policy **ER P2** (Cal. Code Regs., tit. 23, § 5006) requires habitat restoration to be consistent with Appendix 3 (<a href="https://deltacouncil.ca.gov/pdf/delta-plan/2013-appendix-b-combined.pdf">https://deltacouncil.ca.gov/pdf/delta-plan/2013-appendix-b-combined.pdf</a>), which describes the many ecosystem benefits related to restoring floodplains. The elevation map included as Figure 4-1 in Appendix 4 (<a href="https://deltacouncil.ca.gov/pdf/delta-plan/2013-appendix-b-combined.pdf">https://deltacouncil.ca.gov/pdf/delta-plan/2013-appendix-b-combined.pdf</a>) of the Delta Plan should be used as a guide for determining appropriate habitat restoration actions based on an area's elevation.

The DEIR describes potential future restoration sites and impacts with climate change in Chapter 3 and Chapter 30. Several maps in DEIR Appendix 3F identify specific alternative restoration site locations and conceptual cross sections and overviews of mitigation sites that include potential habitat types (DEIR, Chapter 3, Appendix 3F, pp. 3F-3, 3F-23, 3F-27, 3F-37, and 3F-48). These locations overlap with elevation categories identified in ER P2, including elevations appropriate for intertidal restoration. It is our understanding that the maps illustrate an approach to siting and designing habitat mitigation. The DEIR states that, "[t]he final compensatory habitat mitigation needs for the project will be determined once all regulatory permits and approvals are secured" (Appendix 3F, p. 3F-1) and "[t]he initial sites described herein are proposed to address the compensatory mitigation needs for many terrestrial and aquatic resources (Figure 3F-1). However, not all compensatory mitigation needs would likely be met through these sites" (p. 3F-2).

The FEIR should provide additional detail, if available and aligned with permit schedules, describing specific mitigation locations, describe how sites owned by others may be used for mitigation (for example, Bouldin Island, where an ongoing Delta Islands Adaptation project is in process), design approaches, and use of mitigation credits from approved habitat mitigation banks. This additional detail should also identify the elevation band(s) for each proposed habitat restoration or mitigation site in relation to current or long-term average water levels and best available science for projected sea level rise and inflows, and document how each proposed site aligns with **ER P2** or is otherwise an appropriate habitat restoration action.

Ecosystem Restoration Policy 3: Protect Opportunities to Restore Habitat

Delta Plan Policy **ER P3** (Cal. Code Regs., tit. 23, § 5007) states that within priority habitat restoration areas (PHRAs) depicted in Appendix 5 of the Delta Plan (<a href="https://deltacouncil.ca.gov/pdf/delta-plan/2013-appendix-b-combined.pdf">https://deltacouncil.ca.gov/pdf/delta-plan/2013-appendix-b-combined.pdf</a>), significant adverse impacts to the opportunity to restore habitat at appropriate locations must be avoided or mitigated.

All three proposed alignments – the Bethany, Central, and Eastern alignments – traverse one or more PHRA(s) and include permanent features such as a water conveyance tunnel, New Hope Tract Maintenance Shaft, and improvement of existing roadways. Specifically, the proposed project (Alternative 5, Bethany Alignment) traverses the center of the Cosumnes-Mokelumne Confluence PHRA with the underground tunnel extending laterally about four miles. Other project features include the New Hope Tract Maintenance Shaft which is primarily underground but contains an approximately 11-acre surface pad, near the center of the PHRA. An existing road, approximately 0.3 miles in length, is located on the western edge of the PHRA and will be improved under the project. A portion of another roadway identified as part of Alternative 5 extends into the western edge of the Lower San Joaquin River Floodplain PHRA by about 2.3 miles.

Alternatives 1, 2a, 2b, and 2c for the Central Alignment include the tunnel portion that extends laterally approximately 2.3 miles underground through the center of the Cosumnes-Mokelumne Confluence PHRA. An approximately 11-acre pad at the surface would accommodate the New Hope Tract Maintenance Shaft in the center of the PHRA. These alternatives would also include the widening of approximately 0.8 miles of West Lauffer Road for better access to the New Hope Tract Maintenance Shaft in the center of the PHRA.

The Eastern Alignment that covers Alternatives 3, 4a, 4b, and 4c include the tunnel portion that extends about four miles into the central portion of the Cosumnes-Mokelumne Confluence PHRA. Similar to Alternative 5, the New Hope Tract Maintenance Shaft would include an approximately 11-acre pad on the surface and with proposed roadway improvements leading to the shaft extending approximately 0.3 miles into the PHRA.

The DEIR does not appear to analyze whether the potential for construction and operation of the proposed facilities would result in significant adverse impacts on

the opportunity to restore habitat in PHRAs, nor does it identify mitigation measures to avoid or mitigate such potential impacts, that we could identify. While this analysis and mitigation, if applicable, is not required under established CEQA thresholds of significance, this information is required under **ER P3**.

# Ecosystem Restoration Policy 4: Expand Floodplains and Riparian Habitats in Levee Projects

Delta Plan Policy **ER P4** (Cal. Code Regs., tit. 23, § 5008) requires levee projects to evaluate and, where feasible, incorporate alternatives to increase floodplains and riparian habitats. This policy applies to the project because modifications of Delta levees will be required to construct the intakes described in the DEIR, potentially to modify levees on Bouldin Island associated with potential tunnel launch shafts, and at other locations in the Delta to support ancillary facilities. The policy requires the evaluation of setback levees in several areas of the Delta, which include the Sacramento River between Freeport and Walnut Grove, Steamboat Slough, and Sutter Slough. This evaluation is not required under CEQA thresholds of significance. However, to support a future certification of consistency for the project with **ER P4**, DWR will need to conduct such an evaluation.

The DEIR contains programmatic descriptions of levee designs or considerations for a portion of the Lower Sacramento River. In the FEIR, it would be helpful to clarify specific considerations and project details, to the degree known at the time, that may take place at Roberts Island, the Twin Cities complex, or Bouldin Island (as described in DEIR Chapter 3, p. 3-13). Appendix 3F.4.3.1 includes a programmatic description of the challenges inherent to creating channel margin habitat along the Lower Sacramento River mainstem from Freeport to Rio Vista (pp. 3F-56 through 3F-57). However, this section does not identify, for the specific levee projects along this stretch, how these challenges would preclude such enhancements. The level of relevant levee engineering and schematics provided in reports from the Delta Conveyance Design and Construction Authority are helpful (for example, Central and Eastern Corridor Options, 069 CE, PDF p. 3) but also do not describe consideration of levee alternatives.

A future certification of consistency for **ER P4** must be supported by substantial evidence in the record: a) describing the evaluation of potential to incorporate setback levees at locations within the areas identified in ER P4 where Delta levees would be modified to accommodate project or ancillary features; b) identifying

alternatives that would expand floodplains and riparian habitats; and c) describing the feasibility of such alternatives. If the selected alternative includes levee projects in areas identified in **ER P4**, additional detail should be added to the FEIR or as part of a future certification of consistency.

# Ecosystem Restoration Policy 5: Avoid Introductions of and Habitat Improvements for Invasive Nonnative Species

Delta Plan Policy **ER P5** (Cal. Code Regs., tit. 23, § 5009) requires that the potential for new introductions of, or improved habitat conditions for, nonnative invasive specifies, striped bass, or bass must be fully considered and avoided or mitigated in a manner that appropriately protects the ecosystem.

The DEIR references invasive species and their habitat throughout the document, including in Chapter 13, Appendix 3B: Environmental Commitments and Best Practices (p. 3B-27), and Appendix 3F: Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources (e.g., p. 3F-72). More specific standards relevant to mitigation are highlighted in Appendix 3F, section 3F-1.

Section 13.3.1.5, *Evaluation of Compensatory Mitigation*, provides a useful overview of relevant mitigation and focuses on the identified mitigation sites of Bouldin Island and the "I-5 ponds." The FEIR should provide additional detail if available, especially if additional mitigation sites are identified, including analysis of how the project will avoid or mitigate introductions or improved habitat conditions for nonnative invasive species, striped bass, or bass. Proposed mitigation and minimization measures should be consistent with, and equally or more effective than, those identified in the Delta Plan MMRP

(https://www.deltacouncil.ca.gov/pdf/delta-plan/2018-appendix-o-mitigation-monitoring-and-reporting-program.pdf), including Delta Plan Mitigation Measure 4-1, which requires development and implementation of an invasive species management plan for any project whose construction or operation could lead to introduction or facilitation of invasive species establishment, and describes the required content of the management plan.

Delta as Place Policy 1: Locate New Urban Development Wisely Delta Plan Policy DP P1 (Cal. Code Regs., tit. 23, § 5010) requires that new residential, commercial, and industrial development be restricted to areas described in Delta Plan appendices 6 and 7.

The project does not propose residential, commercial or industrial development as part of the identified alternatives.

# Delta as Place Policy 2: Respect Local Land Use when Siting Water or Flood Facilities or Restoring Habitats

Delta Plan Policy **DP P2** (Cal. Code Regs., tit. 23, § 5011) requires water management facilities, ecosystem restoration projects, and flood management infrastructure to be sited to avoid or reduce conflicts with existing uses or those uses described or depicted in city and county general plans for their jurisdictions or spheres of influence when feasible, considering comments from local agencies and the Delta Protection Commission. **DP P2** may also apply to mitigation within the Delta.

**DP P2** is independent of other state law related to local land use authority and the requirements of CEQA. **DP P2** requirements extend beyond CEQA requirements and thresholds of significance. While DWR is not required to analyze or provide mitigation measures for impacts beyond those required by CEQA in the DEIR, the certification of consistency for **DP P2** will need be supported by substantial evidence in the record. We recommend that where possible, the FEIR include documentation describing how conflicts with uses under **DP P2** will be avoided or reduced, when feasible, considering comments from local agencies and the Delta Protection Commission. Such information may be helpful in the record to support a future certification of consistency.

### DP P2 - Community Benefits Program

The DEIR includes a description of a Community Benefits Program. As described in the DEIR, "The Community Benefits Program is a set of commitments made by project proponents and created in coordination with the local community to address local effects that may occur as a result of the Delta Conveyance Project. These commitments are intended to go beyond traditional concepts of "environmental mitigation" to foster goodwill and address the adverse effects local communities may encounter during long construction periods" (DEIR, Chapter 34, p. 34-1). A framework for the program is also described in Appendix 3G (DEIR, Chapter 3, Appendix 3G). While the proposed Community Benefits Program would not be used to mitigate environmental impacts identified pursuant to CEQA, the program may provide a means to offset some potential conflicts with uses under **DP P2** that extend beyond CEQA requirements as part of a future certification of consistency with **DP P2**. We recommend that in the FEIR Appendix 3G the description of the

Delta Community Fund (current described in Community Benefits Program Framework, section 3G.5.1) be supplemented to describe the anticipated funding mechanism(s) and funding amount(s).

#### DP P2 - Cyanobacteria Harmful Algal Blooms

Cyanobacteria Harmful Algal Blooms (CHABs) are known to interfere with existing uses such as agriculture, fishing and recreation, which may constitute a conflict with existing uses for **DP P2** purposes. To the extent that new CHABs were to form as a result of the project and create such interference, this could be considered a conflict with existing uses under **DP P2**. DWR conducted an analysis of CHABs during the peak season. While the DEIR states that "CHABs can form as early as May or June," (Appendix 9E.2.1.8), documented blooms occurred in April in 2021 (e.g. a record of Delta CHAB events is available online from the Council, https://viewperformance.deltacouncil.ca.gov/index.php/pm/harmful-algal-blooms. Data from California State Water Board Surface Water – Freshwater Harmful Algal Blooms Open Data Portal, CSV file Algae Bloom Report ID 2671). The DEIR references a technical memo on CHABs and *microcystis*. However, due to the observed occurrence of blooms outside the peak season, we recommend that DWR conduct sensitivity analysis which includes earlier months of the year to support the future certification of consistency. In addition, we recommend that DWR include this technical memo or other relevant supporting documents as part of a record for a future certification of consistency.

#### DP P2 - Recreation

Fishing, boating, swimming, hiking and other recreational uses people currently participate in are considered existing uses for purposes of **DP P2**. The DEIR's CEQA analysis of recreation impacts (Chapter 16) does not consider local use conflicts as contemplated in **DP P2**, only that the project would affect the region's ability to support the existing recreational visitors. This is responsive to the CEQA threshold, but **DP P2** contemplates existing uses beyond CEQA thresholds of significance. The DEIR analysis does not address the potential loss of existing recreational opportunities due to the project's implementation. **DP P2** focuses on conflicts with existing uses, including the potential for the project to impair recreational opportunities within the project site, and for purposes of **DP P2**, conflicts with these opportunities requiring analysis beyond that required by CEQA.

#### DP P2 - Noise and Vibration

P2, present a use conflict with residential dwellings, such as disturbing everyday activities and sleep, as well as making some current daily business activities difficult to sustain. In Chapter 24 (Noise and Vibration), Mitigation Measure NOI-1: Develop and Implement a Noise Control Plan (DEIR, Chapter 24, p. 24-64 - 24-66), the FEIR should clarify how the specified duration of the Sound Insulation Program would be determined, as well as clarify the eligibility requirements for the program. For the purposes of DP P2, if DWR relies solely on weekly SLM to determine compliance and responds only after reviewing, that may exacerbate conflicts with nearby residences that will deal with the noise daily. Additionally, for the purposes of DP P2, the FEIR should also identify how residents can reach out to DWR if they believe they are affected by excessive sound levels, rather than waiting for DWR to contact them.

The DEIR also describes relocation assistance for property owners for the duration of the exceedance event, in addition to other measures, as proposed mitigation for a "Sound Level Monitoring Exceedance event." The FEIR should clarify how relocation would function to avoid or reduce the use conflict for property owners of businesses who may not be able to fully relocate their place of business, or how such use conflicts may otherwise be addressed, when feasible.

### DP P2 - Public Health, Air Quality, and Environmental Justice

Chapter 26 (Public Health) addresses project construction, operation, and maintenance impacts related to vector-borne diseases, substantial mobilization of or increases in chemical constituents, and adverse effects on public health due to exposure of sensitive receptors to new sources of electromagnetic fields and drinking water quality. The chapter does not mention air quality impacts from the project that will remain significant and unavoidable with the implementation of the proposed mitigation measures and environmental commitments (see Impact AQ-5: Result in Exposure of Sensitive Receptors to Substantial Localized Criteria Pollutant Emissions and Impact AQ-6: Result in Exposure of Sensitive Receptors to Substantial Toxic Air Contaminant Emissions). Furthermore, the Environmental Justice Chapter (Chapter 29) notes that "... the air quality effects would occur in areas with meaningfully greater minority and low-income populations and therefore represent a disproportionately adverse effect on environmental justice." (DEIR Chapter 29, p. 29-29). **DP P2** does not require specific measures to avoid or reduce potential conflicts with existing uses because they may create a

disproportionate impact on low-income and minority communities. However, **DP P2** does require that projects be sited to avoid or reduce conflicts with existing uses where feasible.

Existing uses may include uses for residential, livelihood, recreational and other purposes. Conflicts with these uses may result from project impacts that are adverse to human health, quality of life, and/or general wellbeing. If nearby low-income or minority communities currently bear high environmental burdens (e.g., high levels of air pollutants), or if community members possess other demographic characteristics that heighten their baseline level of social vulnerability to social and environmental stressors (e.g., disability, lack of housing), they may experience adverse impacts that conflict with their current use of land for residency, livelihood, recreation, or other purposes. These impacts may not be detectable by evaluating environmental impacts at the full project scale.

The DEIR draws on impact analyses in other resource chapters to determine which significant environmental impacts have the potential for "disproportionately high and adverse" effects on EJ communities (DEIR Chapter 29, p. 29-1). The DEIR states that "Because minority and low-income residents meeting or exceeding the respective environmental justice thresholds are present in high proportions in the study area census block groups, it is assumed that significant impacts that would not be reduced to a less-than-significant level would constitute a disproportionately adverse effect on environmental justice. Conversely, when impacts can be reduced to a less-than-significant level, effects on minority and low-income populations are likely not to exceed those on the general population; therefore, effects on environmental justice would not be considered disproportionately adverse" (DEIR Chapter 29, p. 29-2).

The DEIR states, "[f]or impacts that were determined not significant, no additional evaluation is needed because those impacts would not result in disproportionate effects on minority and low-income populations" (DEIR Chapter 29, p. 29-36), based on the assumption that where there are no significant impacts there would not be a disproportionately high and adverse impact on EJ communities (DEIR Chapter 29, p. 29-31). However, depending on how thresholds of significance are defined, an impact determined to be "less than significant" based on a significance threshold that considers the whole of the project site may still be adverse in a spatially concentrated area, creating conflict with existing residential, livelihood, recreational and other uses in that area. For example, the DEIR identifies that impacts related to

hazardous materials are less than significant with mitigation under alternative 5, yet the DEIR also notes that a nearby school will be exposed to hazardous materials (DEIR, pp. ES-104–ES-105). If such impacts are borne by one or a few very localized community(ies) (in this case, a school), and if they interfere with existing or designated uses, this may not represent a significant CEQA impact, but it could still constitute a conflict with an existing use for **DP P2** purposes.

The DEIR analysis of impacts on recreational fishing opportunities and subsistence fishing for very low-income households (DEIR Chapter 29, p. 29-33) presumes access to "numerous other locations" is possible. This analysis does not address the loss of existing fishing opportunities (an existing use), nor does it consider that those in EJ communities may face barriers to access (e.g., transportation, mobility) that prevent them from accessing alternative locations. These potential conflicts with existing uses should also be addressed in the FEIR.

The Council commends DWR for including analyses going beyond the requirements of CEQA, and for acknowledging project impacts that may disproportionately impact the many low-income and minority communities who comprise much of the project area. However, this approach may not identify localized and community-specific impacts in sufficient detail to demonstrate that conflicts with existing uses have been identified and that the project has been sited to avoid or reduce those conflicts where feasible.

#### DP P2 - Tribal Cultural Resources

DWR's review of the California Register of Historical Resources (CRHR) eligibility found the "Delta Cultural Landscape" as eligible for listing, rather than the eligibility of individual resources in the study area that Tribes have identified (habitats, waterways, archeological sites, mounds, trails, villages, etc.). We understand that this may be because the individual resources are themselves part of the Delta Cultural Landscape. The DEIR notes that "...Tribes may have additional information about resources' significance, location, and description to share with DWR during ongoing consultation..." and that "DWR will consider information provided through consultation about resources of importance to affiliated Tribes and reapply the three-step screening process, as appropriate..." (DEIR Chapter 32, p. 32-21). If, as a result of this process, DWR deems an individual resource as eligible for listing in the CRHR, this may implicate **DP P2** related to conflict with existing uses. To demonstrate consistency with **DP P2**, a future certification of consistency should describe how the project was sited to avoid or reduce conflicts with these existing

uses, or that doing so was infeasible, and provide substantial evidence in the record.

The DEIR does not report whether Tribes concur with the presentation of impacts to Tribal cultural resources, particularly the decision to recognize and assess impacts to the Tribal Cultural Landscape (TCL). The Council defers to Tribes on this matter. If consulting Tribes indicate that impacts to both individual resources and the full landscape should be described in the FEIR, the Council strongly encourages DWR to do so.

The DEIR recognizes the immense significance of the Delta to Tribes, stating, "the Delta holds great significance to Tribes and that Tribes oppose the Delta Conveyance Project due to the potential unmitigable impacts on the Tribal cultural landscape and the many resources that make this place foundational to Tribes" (DEIR Chapter 32, p. 32-2). DWR identifies alterations to the Delta TCL resulting from the project as a significant impact, yet mitigation measures are defined in relation to types of character-defining features. This creates a potential mismatch between the scale of impact (landscape) and the scale of mitigation (character-defining features). The Council encourages DWR to continue to work with Tribes to achieve a project design that will avoid or reduce conflict with the existing Tribal use of the landscape as a culturally significant and sacred space prior to certifying consistency with the Delta Plan.

The DEIR recognizes that mitigation measures associated with other resource chapters may not account for those resources' value as character-defining features of the TCL (DEIR Chapter 32, p. 32-4). As such, mitigation measures proposed in other resource chapters may not avoid or reduce conflicts with existing specific Tribal cultural uses as required by **DP P2**. The Council recommends that DWR affirm in the FEIR which mitigation measures referenced in Chapter 32 that address physical or biological resources elsewhere in the DEIR explicitly account for referenced impacts to Tribal cultural resources or character-defining features of the TCL.

As part of a future certification of consistency, DWR should demonstrate that all impacts to existing uses associated with known Tribal cultural resources have been considered, as a basis for siting the project to avoid or reduce conflicts when feasible. Since at present, the DEIR identifies the entire TCL as a tribal cultural resource, and that mitigation measures commit to protect types of character-defining features of the TCL, it is important that all known character-defining

features, as determined through consultation with Tribes, be defined in this list in the FEIR (DEIR Chapter 32, Table 32-2) or other documentation prior to the certification of consistency.

As part of Mitigation Measure TCR-1d DWR commits to assisting Tribes with access to lands and waters, including facilitation of access agreements, as appropriate for ceremonial and other spiritual practices, as well as collecting and gathering of resources for traditional uses (DEIR Chapter 32, p. 32-49). The Council recommends that DWR include specific examples describing how such access may be provided, particularly in cases where barriers to access can be reasonably anticipated.

#### Risk Reduction Policies

Based on a review of the DEIR, we have not identified circumstances where the project would implicate the Delta Plan's risk reduction policies (**RR P1** through **RR P4**). If the FEIR identifies such circumstances, the Council recommends that DWR engage in early consultation for these policies ahead of a submitting a certification of consistency.

### Closing Comments

We appreciate the opportunity to review the Delta Conveyance Project DEIR. As DWR proceeds with revisions and development of a FEIR, we invite you to continue to engage Council staff in early consultation to discuss project features and mitigation measures that would promote consistency with the Delta Plan. As part of the Council, the Delta Science Program's Adaptive Management Liaisons are also available to provide further consultation and guidance regarding appropriate application of best available science and adaptive management. In addition, we encourage DWR to continue to present at Council meetings, and to seek similar consultation with the Delta Independent Science Board.

More information on covered actions, early consultation, and the certification process can be found on the Council website, <a href="http://deltacouncil.ca.gov/covered-actions">http://deltacouncil.ca.gov/covered-actions</a>. Council staff are available to discuss issues outlined in this letter as you proceed in the next stages of your project and approval processes. Please contact Daniel Constable at (916) 902-6470 (daniel.constable@deltacouncil.ca.gov) with any questions.

Sincerely,

Jeff Henderson, AICP Deputy Executive Officer Delta Stewardship Council

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#### Attachment 1

## G P1(b)(3) Best Available Science, Detailed Comments

The following comments are provided to expand on comments on Delta Plan Policy **G P1(b)(3)** provided in the Council's comment letter on the Delta Conveyance Project (project) Draft Environmental Impact Report (DEIR). The Council acknowledges that many of these comments do not directly pertain to California Environmental Quality Act (CEQA) requirements, and may not require response in the Final Environmental Impact Report (FEIR) to comply with CEQA. However, the FEIR may provide a suitable opportunity to address these points to build a record that supports a future certification of consistency with **G P1(b)(3)**.

#### **General Comments**

Several DEIR chapters include references to Department of Water Resources (DWR) technical memoranda for more information on methodology. However, many of these technical memoranda are not linked within the references and do not appear to be available online. In particular we identified references to unavailable DWR technical memoranda in Chapters 5 (especially Appendix 5A, Section C), Chapter 10 (Section 10.3.3.3 p.10-39), and Chapter 11 (Section 11.3.1.1 p. 11-38). These methodological details should be included explicitly and referenced memoranda should be included as attachments to the FEIR, when possible. (We understand copyright restrictions may limit what can be posted online).

Additionally, the Council recommends that DWR provide additional resources to support the public in providing informed comments regarding the project's use of best available science (BAS). As noted in the journal article *Public participation methods: a framework for evaluation* (Rowe and Frewer, 2000), members of the public must have access to adequate information resources, human resources, material resources, and time resources to contribute meaningfully to public processes. The Council appreciates that DWR has already provided many helpful resources to support public involvement, including particularly the July 2022 *Draft Environmental Impact Report Explained* document and explainer videos available on the project website. However, the DEIR still contains large amounts of technical material that requires additional explanation and interpretation. Ahead of releasing the FEIR, DWR should consider hosting workshops or panels that provide interested parties an opportunity to interact directly with technical experts and science communicators to facilitate public understanding of the methods and findings reported in the DEIR.

### Appendix 3G: Community Benefits Program

As noted in our main comment letter, while we acknowledge that the Community Benefits Program goes beyond the requirements of CEQA, we also explain that it may provide a means to reduce some potential conflicts with existing uses that extend beyond CEQA requirements as part of a future certification of consistency with **DP P2**. If so, it would be

subject to **G P1(b)(3)**. Moreover, even if not subject to that regulation, applying best available science is a good practice.

The DEIR does not describe a scientific basis for the design of the Community Benefits Program (CBP). As described in DEIR Appendix 3G, case studies of other community benefits programs were presented at a November 2021 CBP workshop. The FEIR should describe how these case studies informed the CBP as conceptualized in the DEIR. There are also extensive, interdisciplinary literature spanning topics such as environmental governance, human dimensions of natural resource management, stakeholder engagement, political ecology, and environmental psychology that are relevant to the design of a Community Benefits Program. Engagement with social scientific literature could inform the design of this program to increase the likelihood that it will achieve its objectives.

Also, pertaining to the BAS criterion of transparency and openness, Figure 3G-2 is difficult to interpret. It is not clear how stages of the three process elements (grant program, economic development/integrated benefits, community benefit agreements) relate to one another. For instance, the figure depicts that a draft community benefit agreement relates to public review of parameters of the economic development and integrated benefits, as conveyed by the vertical yellow arrows, but the meaning of the arrows is not explained. Council staff recommend that the FEIR include a descriptive caption to clarify the intent of Figure 3G-2.

### Chapter 5: Surface Water

The DEIR does not explain why inputs for the CalSim3 model were based on stream flows in the period 1922-2015, rather than through 2020, as the balance of the DEIR uses 2020 as a baseline. After review of the DEIR appendices, we understand that this may be due to the use of Coupled Model Interconnected Project (CMIP) 5 projections (e.g., Chapter 30, Appendix 30, p. 30A-3) and because sensitivity analyses conducted include a range of data that may capture similar conditions (Appendix 30). However, if this is accurate, it would be helpful to explicitly describe this within FEIR Chapter 5 rather than only in an appendix. Lastly, related to the BAS criterion of transparency and openness, staff recommend that DWR consistently describe the reasoning behind choosing model inputs at appropriate locations in the FEIR.

Appendix 5A, Section B: Hydrology and Systems Operations Modeling Climate models used to generate future conditions hydrology were based on CMIP 5 projections from 2013, not from the newest CMIP 6 projections. Also, the baseline period for the climate normals used in the analysis is from 1981-2010, despite the availability since May 2021 of updated climate normals for 1991-2020 which better reflect current climate conditions (https://www.ncei.noaa.gov/products/land-based-station/us-climate-normals).

We understand that, at the time of modeling for the DEIR, CMIP 6 model data was not available in a form usable by the relevant models. Similarly, we understand that the

inclusion of this more recent data may not change identified impacts. However, if this data is available prior to certification, we recommend either updating modeling to make use of this data, or conducting a new sensitivity analysis if the CMIP 6 data warrants this.

#### Chapter 7: Flood Protection

The DEIR evaluates water stage using DSM2, which does not include system wide flood operations. This approach is different than the approach used in the Central Valley Flood Protection Plan. Additionally, the future conditions modeling did not include the projects from the State Systemwide Investment Approach for the middle century scenarios that were modeled. To demonstrate consistency with the BAS criterion of transparency and openness, the FEIR should clearly explain why the DSM2 model was selected to support the flood protection analysis when compared to other available options used by DWR for similar studies.

#### Chapter 9: Water Quality

The Cyanobacteria Harmful Algal Blooms (CHABs) impact assessment only considered a June to November timeframe for CHAB formation, offering the explanation that these months are when blooms have been present in the Delta (DEIR Chapter 9, Impact WQ-14, p. 9-154), despite also stating in the DEIR that CHABs can form as early as May or June (Appendix 9E.2.1.8). While June to November may represent the peak time for CHABs in the Delta, blooms do occur beyond this time period (e.g. a record of Delta CHAB events is available online from the Council, <a href="https://viewperformance.deltacouncil.ca.gov/index.php/pm/harmful-algal-blooms">https://viewperformance.deltacouncil.ca.gov/index.php/pm/harmful-algal-blooms</a>. (Data from California State Water Board Surface Water – Freshwater Harmful Algal Blooms Open Data Portal, CSV file Algae Bloom Report ID 2671)). To demonstrate consistency with the BAS criterion of inclusiveness, the FEIR's CHABs analysis should be based on a review of available sources, and should consider potential project CHAB impacts based on temperature, velocity, turbidity, and nutrients for the entire year.

## Chapter 12: Fish and Aquatic Resources

Water Temperature and Inflow Relationship

Recent scientific studies have been published that provide new tools for assessing the role of inflow in affecting Delta water temperatures and provide greater clarity on the relationship between water temperature and inflow. For purposes of BAS, these studies are appropriate for inclusion and citation in the FEIR to support consistency with the timeliness and relevance BAS criteria.

In the research article *The Drivers of River Temperatures Below a Large Dam*, Daniels and Danner (2020) developed a river temperature model for the Sacramento River from Keswick Dam to Knight's Landing with the capability to test the influence of inflow volume

and temperature on downstream temperatures. They found that the influence of dam discharges and discharge temperatures are greatly reduced (but not eliminated) toward the lower reaches of the Sacramento River, such that air temperature is the primary correlate of Sacramento River temperatures at the most downstream region in their study (which terminates at Knight's landing).

In a recent research effort on Seasonally variable relationships between surface water temperature and inflow in the upper San Francisco Estuary, Bashevkin and Mahardja (2022) evaluated the relationship between water temperatures and inflow in the Delta and determined that there was a predominantly negative correlation, in which lower inflows are related to higher water temperatures, throughout much of the Delta. Temperature could increase by up to 2°C from high to low inflow years. This study did not assess causation, but it establishes a basis for a potential causal relationship between inflow temperature and/or volume and Delta water temperatures. The authors also review prior studies of inflow-temperature relationships in the Delta that may be of use to DWR in improving the scientific basis of analyses in the FEIR.

To demonstrate consistency with the BAS criteria of inclusiveness and transparency and openness, the potential effect of Sacramento River inflows on Delta water temperatures should be assessed and disclosed in the FEIR. It was unclear, based on our review of the DEIR, if such analysis has been completed, since many of the temperature model details are not provided in Appendix 5A Section C, but may be available in DWR technical memos cited in the DEIR but that are not available online. One way to complete this analysis would be to extend the Daniels and Danner (2020) model to a location downstream of the proposed intakes, and to the Feather and American rivers.

#### Zooplankton

The choice of *Eurytemora affinis* for zooplankton food availability analyses raises a timeliness question, as *E. affinis* has not constituted a dominant proportion of the zooplankton biomass since the late 1980s (see *Shifts in Zooplankton Community Structure: Implications for Food Web Processes in the Upper San Francisco Estuary*, Winder & Jassby, 2011; or directly explore the data at <a href="https://deltascience.shinyapps.io/ZoopSynth/">https://deltascience.shinyapps.io/ZoopSynth/</a>). Another approach would be to base food availability analysis on currently predominant species like *Pseudodiaptomus forbesi*, or better yet, on an index of zooplankton biomass available to and consumed by Delta Smelt.

#### Modeling

The high variability in model predictions in the outflow-abundance model results for Longfin Smelt and White Sturgeon raise for us some questions about the accuracy of the model. We could not identify, from the material reviewed, if sensitivity analyses were performed to validate model structure or preclude inclusion of additional covariates. Additional details on model validation would be helpful to improve the transparency and openness.

#### Additional Comments

Overall, DWR could improve its approach to the BAS criterion of transparency and openness by making readability improvements throughout the chapter. For example, on page 12-13 the text switches between scientific and common names for species, making it difficult to follow, especially for readers unfamiliar with species names. In addition, the acronym "EC" is used to refer to both "existing conditions" and "electrical conductivity."

#### Chapter 16: Recreation

The DEIR assumes the substitutability of alternate recreational use areas when predicting that project construction would lead to temporary increases in the use of neighboring recreational areas (DEIR Chapter 16, pp. 16-24 and 16-26). The DEIR also states that the DWR opted not to conduct a full survey of recreational users in 2020 and 2021 out of concern that, due to the pandemic, the observations gained through a survey would not be representative of typical recreational use patterns (p. 16-6). In lieu of a user survey, DWR conducted interviews with eight managers from different recreation providers within the Delta. However, the DEIR does not explain why these specific eight managers were chosen, nor whether they are meant to offer a representative perspective regarding the range of recreation types and areas in the Delta potentially affected by the project. Research has shown that changes in outdoor recreation behavior persisted beyond the initial phases of the pandemic (Back to nature: Norwegians sustain increased recreational use of urban green space months after the COVID-19 outbreak, Venter et al. 2021). To demonstrate consistency with the BAS criteria of inclusiveness and relevance, DWR should consider the tools available to document the current typical recreation patterns in the Delta following the pandemic.

### Chapter 17: Socioeconomics

When justifying the use of the IMPLAN model, the DEIR states that IMPLAN is the most widely used input-output model system in the U.S. (DEIR Chapter 17, p. 17-38). For statements such as this, which represent the basis for a decision (in this case, the decision to use this particular model), a citation should be provided in order to be transparent about the information that led to the decision.

The DEIR also states that the IMPLAN estimate for the share of personal income earned in the region but exported outside the region is 15%, but it is not clear whether this 15% is a hard-coded aspect of the model, or a variable input chosen by DWR (p. 17-41). If the latter, the FEIR should state why DWR chose 15%. If the former, citations would provide to readers an understanding regarding whether that 15% estimate is realistic and would help improve transparency and openness regarding use of this model.

The qualitative description of social and community effects could benefit from additional references which would add support relative to the BAS criterion of objectivity (pp. 17-43–17-44). The DEIR describes how the project could influence social cohesion, sense of place, and other topics in affected communities, but presents no assessment in support of these

claims. There are established methodologies for surveying community members to understand how they might react to changes, and information gathered could provide meaningful guidance about the potential socioeconomic impacts of the project. Adding to the analysis here or documenting additional references in the FEIR could contribute towards better demonstrating the BAS criterion of objectivity.

#### Chapter 19: Cultural Resources

Below, we recommend several revisions that would improve the transparency and openness of the DEIR analysis of impacts on cultural resources:

- Develop a visualization that clarifies how the various definitions and regulatory criteria used in this Chapter relate to one another. Suggested terms to include are "cultural resources," "historical resources," the National Register of Historic Places/California Register of Historic Resources (NRHP/CRHR) eligibility criteria, criteria of integrity, and the CEQA thresholds of significance. We also recommend including the NRHP/CRHR criteria in the main chapter narrative, rather than only in Appendix 19A.
- Explain the NRHP/CRHR criteria codes in a note to Table 19-3.
- Explain why some archaeological resources are currently identified but not evaluated for eligibility (p. 19-12).
- Provide evidence to support the statement that noise would only affect resources where a quiet setting is critical to the "public's understanding of the resource" (p. 19-38).

### Chapter 23: Air Quality and Greenhouse Gases

In Appendix 23D, the DEIR states that the BenMAP model used to assess health impacts associated with air quality uses 2010 census data because, at the time of the drafting of this DEIR, the 2020 census data were not yet publicly available (DEIR Appendix 23D, p. 23D-9). To align with the BAS criterion of timeliness, DWR should either update this analysis or provide relevant sensitivity analysis prior to submitting a certification of consistency with the Delta Plan. Ideally this update could be done to inform the FEIR as well.

## Chapter 29: Environmental Justice

The analysis in this chapter does not characterize specific localized impacts, potentially overlooking differences in impacts that are important relative to the BAS criterion of relevance. Environmental justice (EJ) analyses are known to be sensitive to a spatial scale of analysis, and analyses conducted at larger spatial scales often mask disparities in impact that become evident at smaller scales (see, e.g., *Scales of justice: is there a geographic bias in environmental equity analysis?*, Baden et al. 2007). Commonly, analyses of environmental justice evaluate whether there are correlations between environmental risks/hazards and community socioeconomic or demographic characteristics, such as race or income, with communities defined at a specific, relatively small geographical scale (e.g.,

Census block group). Many analyses compare communities where hazards or exposures are located, and those where they are not (see., e.g., Racial/ethnic disparities in cumulative environmental health impacts in California: evidence from a statewide environmental justice screening tool, Cushing et al. 2015). This "unit-hazard coincidence method" has been critiqued on various grounds and more sophisticated, e.g., distance-based, analytical methods are increasingly used (see Disproportionate proximity to environmental health hazards: methods, models, and measurement, Chakraborty et al. 2011), but the common relevant feature among these methods is that they start by assuming (and then empirically demonstrating) that impacts can vary at relatively small spatial scales, based on certain characteristics (e.g., race, income) that are by now established predictors of disproportional environmental burdens. This basic assumption should be used in the DEIR to assess project impacts at the Census block group, Census tract, and/or county level, using community information identified early in the chapter.

The DEIR considers the entire project area as one environmental justice community because of the "substantial presence throughout the study area" of low-income and minority populations (DEIR Chapter 29, p. 29-43). However, this coarse filter approach masks potentially relevant differences in impact within the project area. The analysis relies on findings in other resource chapters to summarize environmental justice impacts, but the impact analyses in those chapters do not characterize how impacts may vary between EJ- and non-EJ communities, or even between different EJ communities. A more robust environmental justice assessment would not only state that there are impacts on "environmental justice communities" writ large – it would also attempt to describe (qualitatively and/or quantitatively) what those impacts would be and how they would vary between communities. Including more granular information about these impacts would better align with methodologies commonly used in environmental justice analysis, and also produce relevant information that can inform mitigation that is tailored to localized impacts, particularly when those impacts would exacerbate environmental injustices.

Furthermore, the description of the analytical method the DEIR employs is not clear. Below, we recommend a number of revisions that would improve the transparency and openness of the EJ analyses:

- Use clear and consistent terms. Define and use terms consistently (e.g., EJ populations, EJ communities, minority and low-income communities). The DEIR term closest to providing an explicit definition of EJ communities in the chapter is "disenfranchised" (p. 29-4). This term should be explained and a citation provided if it is used. Consider defining EJ communities in operational terms, referring to the framework used throughout the chapter (i.e., in terms of race/ethnicity and income).
- Describe metrics used to identify low-income communities. The definition of low-income community (20% or more of the population has individual household income (MHI) less than 80% statewide MHI, or ~\$60,000) is only provided as a note to Table 29-2. This and other similar definitions should be included in the main

narrative. More broadly, the description of the definition could be clarified. The definition of "low-income" (p. 29-15 line 8) refers to the California Public Resources Code definition for a disadvantaged community, as a community with MHI less than 80% statewide average. This 80% community metric is then used to calculate a \$60,000 threshold for individual households. The DEIR applied a community-based metric to set a threshold for individual household income and then this threshold was used to calculate percentages of households within an area (census block group, census tract, and county) at or below this threshold. The change in units (community to household) should be made clearer in the FEIR.

• The FEIR should provide a reference or explain how it defines "statewide average" on page 19-25, lines 12-13.

There are also several statements that should be supported by applicable references and/or analysis. These include:

- The statement that the DEIR represents the "typical scope of EJ analysis" (p. 29-4).
- Page 29-28 states that changes to SWP deliveries may benefit SWP-receiving minority and low-income communities, and also states that reductions in water deliveries or their reliability would result in disproportionate impacts to the same communities. Similar statements are found in the discussion of groundwater replenishment and water rates on page 20-30, lines 6-16.
- The statement that low-income and minority agricultural workers comprise a substantial proportion of environmental justice communities in the Delta (p. 29-41).
- The assessment of impacts of mitigation measures (p. 29-50).

Several descriptions within the chapter or between statements in the chapter and other sections of the DEIR should be clarified to improve transparency and openness. These include:

- The DEIR refers to beneficial effects in the Delta from operations (p. 29-1), but the description of the Community Benefits Program notes that the project's benefits do not accrue to local communities. As such, it is not clear what beneficial effects the DEIR refers to here. Similarly, the DEIR states that when impacts can be reduced to less-than-significant, minority and low-income populations are likely to benefit proportionately (p. 29-2). Evidence is not cited for this statement. As this logic underpins the subsequent EJ analysis, it should be more clearly explained.
- The definition of minority populations refers to the 1997 guidance from the Council
  on Environmental Quality, which differs from the categories used in the 2019
  American Community Survey (ACS) (i.e., ACS separates Asian from Native
  Hawaiian/Other Pacific Islander as also shown in Table 29-1). This discrepancy
  should be explained and/or reconciled.

- Figure 29-2 shows Census tracts and Census block groups, not Census blocks as referenced in the narrative on page 29-9.
- On page 29-25 the DEIR states, "the criteria for [Disadvantaged Communities] DAC are comparable to the criteria for determining an environmental justice community used in this chapter, which are household income below 80% of statewide MHI or non-white ethnicity of any income bracket, combined with residence in Delta census tracts that contain any part of the project footprint." However, "Non-White ethnicity" is not the same as the definition of minority provided earlier. On page 29-9 it appears that the category "Hispanic" includes White Hispanic people (as the DEIR states this category is defined "regardless of race" and Table 29-1 only includes "Total Hispanic" without differentiating White and non-White Hispanic). Therefore, it appears White Hispanic people are included in the DEIR definition of "minority communities." In contrast, in the EJ survey the racial classification for DACs is "other than white" (p. 29-25), so presumably White Hispanic people were not included in the classification of DAC members. Therefore, the DAC criteria used in the survey do not appear to be directly comparable to the criteria used within the chapter. If comparability of categories is not possible, then, in accordance with the BAS criterion of transparency and openness, the FEIR should describe the discrepancy and any resulting limitations for the analysis.

Additional relevant content should be included in the environmental justice analysis, including the following:

- The DEIR states that EJ impacts on tribal cultural resources cannot be analyzed, because there is no control group for the test of disproportionality (p. 29-34). However, the EJ literature widely recognizes that any impact that exclusively affects only one community, a minority ethnic group (such as tribal community members), precisely fits the definition of an environmental justice impact. According to the EJ literature, lacking a control group for comparison does not matter if the proportional impact on a minority community is 100%. Therefore, the FEIR should include a discussion of EJ impacts on tribal cultural resources.
- The FEIR should include an assessment of cumulative impacts that accounts for combined impacts of the project as well as other foreseeable environmental hazards and associated health burdens that may simultaneously be experienced by environmental justice communities (see Cushing et al. 2015 for discussion of importance of cumulative impacts analysis).

## Chapter 30: Climate Change

Modeling under the H++ scenario of >3 meters of sea level rise appears to assume that the geometry of the streams would be unchanged, which may be unrealistic given the stresses to the Delta's flood management system. However, the FEIR should more fully describe the decisions made in the analysis related to end-of-century upper-end climate change

scenarios and Delta geometry, to help clarify the limitations of analysis and levels of uncertainty related to future climate change scenarios.

#### Chapter 32: Tribal Cultural Resources

The Council recognizes that Tribes are the appropriate parties to evaluate whether Tribal cultural resources have been accurately assessed and impacts adequately characterized in the DEIR. Tribal expertise is the core evidence base for assessing impacts to Tribal cultural resources. To ensure that the material in this chapter meets the BAS criteria of relevance and inclusiveness, the Council recommends that DWR ensure Tribal review and endorsement/acceptance of the presentation of the following in the DEIR:

- Significance criteria. The DEIR states that the significance thresholds were developed to mirror common CEQA language ("materially impair"), but does not state whether the thresholds were informed by consulting Tribes.
- Confidential appendix. The DEIR states that this appendix was "reviewed by appropriate DWR officials," but does not state whether the appendix was also reviewed by consulting Tribes.
- Tribal Cultural Landscape (TCL). The DEIR notes that DWR's perspective that
  individual features contribute to the CRHR eligibility of the landscape as a whole
  "was shared with Tribes in consultation" and goes on to state, "all of these features
  are important as part of the Delta TCL and that the information in DWR's record at
  the time of development of this Draft EIR did not support a finding that these
  features are CRHR-eligible separate from the Delta TCL" (p. 32-20). The DEIR does
  not state whether consulting Tribes support this approach.
- TCL character-defining features (e.g., Table 32-2). The DEIR does not state whether this list has been reviewed by Tribes for completeness or whether they agree with the characterization of features.
- Upstream impacts. The DEIR states that some consulting Tribes expressed concerns about indirect upstream impacts of the project. The DEIR cites to modeling analyses showing that "indirect operational changes" upstream would be "negligible" (p. 32-8). The FEIR should describe if and how the modeling outputs referenced here correspond to the impacts of interest or concern to Tribes, and whether Tribes' concerns are addressed by these analyses.
- Data ownership. It is not clear in the DEIR if Tribes were consulted on the matter of
  data ownership, if they are comfortable with the way the data has been collected
  and used, or if they agree with the way data is characterized in this document (e.g.,
  references to DWR "sharing" oral histories or identified Tribal cultural resources with
  Tribes; describing the confidential appendix as "part of DWR's confidential CEQA
  administrative record" (p. 13). According to best practices for Tribal data sovereignty
  (e.g., Tribal data governance and informational privacy: constructing "Indigenous")

*data sovereignty"*, Tsosie 2019), Tribes own all data collected for, by, and about them.

To enable transparency and openness for non-Tribal entities and members of the public to make an informed assessment of impacts on Tribal cultural resources, the Council recommends that DWR disclose how many consulting Tribes reviewed the chapter, generally summarize the Tribes' commentary, and explain how Tribal comments were addressed, in all cases withholding sensitive and confidential information. Additionally, the DEIR seems to suggest consulting Tribes' guidance to define a larger TCL boundary was not followed (lines 26 to 34 of p. 32-24). In this and any similar case where DWR made decisions independent of Tribal consultation or decisions to override the guidance of consulting Tribes, those decisions should be stated transparently and should be justified.

Related to the BAS criteria of relevance and inclusiveness, the Council recommends that DWR provide additional opportunities for active collaboration with interested consulting Tribes, establishing a framework and providing resources that will allow interested Tribes to substantively shape proposed mitigation measures. The DEIR states the Tribal Cultural Resources Management Plan will be prepared by individuals who meet professional standards defined by the Secretary of the Interior for cultural resources (p. 32-49). Council staff recommend that DWR consult with Tribes to determine if they have an interest in leading development of this plan, with DWR providing financial and logistical/coordination support. Additionally, proposed Mitigation Measure TCR-1d describes a passive role for Tribes in development of compensatory mitigation plans (p. 32-48), indicating that Tribes will be invited to respond to a document developed in advance and for other purposes. Council staff recommend that interested Tribes be involved and empowered to take leadership roles in the development of these plans.

Council staff recommend that the FEIR provide a visualization that depicts how the various definitions and regulatory criteria used to make significance determinations relate to one another. Suggested terms to include are "historic resource," "Tribal cultural resource," "cultural landscape," "Tribal cultural landscape," CEQA/PRC criteria (21074(a)(b)(c) and 5024.1(c)), the CRHR criteria, and the criteria of integrity.

### Chapter 35: Public Involvement

Regarding the BAS criterion of transparency and openness, the Council recommends that DWR cite relevant sources in this chapter to demonstrate the robustness of its public engagement efforts. In addition to social scientific literatures referenced above for the Community Benefits Program, there are several practical guides DWR could cite to demonstrate a scientific basis for its public engagement, including the <u>U.S. EPA's Public Participation Guide</u>, the <u>Institute for Local Government's website on Inclusive Public Engagement</u>, and the <u>U.S. Forest Service's Public Engagement Reference Guide for Forest Service Employees</u>.

#### References

Baden, B.M., Noonan, D.S., and Turaga, R.M.R. 2007. Scales of justice: is there a geographic bias in environmental equity analysis? Journal of Environmental Planning and Management 50: 163-185.

Bashevkin, S. M., and B. Mahardja. 2022. Seasonally variable relationships between surface water temperature and inflow in the upper San Francisco Estuary. Limnology and Oceanography 67:684–702.

California State Water Board Surface Water – Freshwater Harmful Algal Blooms Open Data Portal, CSV file Algae Bloom Report ID 2671

https://data.ca.gov/dataset/ab672540-aecd-42f1-9b05-9aad326f97ec/resource/c6f760be-b94f-495e-aa91-2d8e6f426e11/download/fhab\_bloomreport\_portal.csv

Chakraborty, J., Maantay, J.A., and Brender, J.D. 2011. Disproportionate proximity to environmental health hazards: methods, models, and measurement. American Journal of Public Health 101: S27-S36.

Cushing, L., Faust, J., August, L.M., Cendak, R., Wieland, W., and Alexeef, G. 2015. Racial/ethnic disparities in cumulative environmental health impacts in California: evidence from a statewide environmental justice screening tool (CalEnviroScreen 1.1). American Journal of Public Health 105: 2341-2348.

Daniels, M. E., and E. M. Danner. 2020. The Drivers of River Temperatures Below a Large Dam. Water Resources Research 56:e2019WR026751.

California Ocean Protection Council. 2018. "State of California Sea-Level Rise Guidance, 2018 Update."

http://www.opc.ca.gov/webmaster/ftp/pdf/agenda\_items/20180314/Item3\_Exhibit-A\_OPC\_SLR\_Guidance-rd3.pdf

Rowe, G., and Frewer, L.J. 2000. Public participation methods: a framework for evaluation. Science, Technology, and Human Values 25: 3-29.

California State Water Boards Surface Water - Freshwater Harmful Algal Blooms CSV, AlgaeBloomReportID 2671, observed on April 28, 2021

Tsosie, R. 2019. Tribal data governance and informational privacy: constructing "Indigenous data sovereignty". Montana Law Review 80:4.

Venter, Z. S., Barton, D. N., Gundersen, V., Figari, H., & Nowell, M. S. (2021). Back to nature: Norwegians sustain increased recreational use of urban green space months after the COVID-19 outbreak. *Landscape and Urban Planning*, *214*. <a href="https://doi.org/10.1016/j.landurbplan.2021.104175">https://doi.org/10.1016/j.landurbplan.2021.104175</a>

Winder, M., Jassby, A.D. (2011) Shifts in Zooplankton Community Structure: Implications for Food Web Processes in the Upper San Francisco Estuary. *Estuaries and Coasts* 34, 675–690. <a href="https://doi.org/10.1007/s12237-010-9342-x">https://doi.org/10.1007/s12237-010-9342-x</a>