



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION IX**  
**75 Hawthorne Street**  
**San Francisco, CA 94105-3901**

March 16, 2023

Michael Jewell  
Regulatory Division  
U.S. Army Corps of Engineers  
1325 J Street  
Sacramento, California 95814

**Subject:** Draft Environmental Impact Statement for the Delta Conveyance Project, Sacramento California (EIS No. 20220183)

Dear Mr. Jewell:

The U.S. Environmental Protection Agency has reviewed the U.S. Army Corps of Engineers' above-referenced project pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act. The CAA Section 309 role is unique to EPA. It requires EPA to review and comment publicly on any proposed federal action subject to NEPA's environmental impact statement requirement.

The proposed action is referred to as the Bethany Reservoir Alignment and the Draft EIS identifies it as the California Department of Water Resource's Preferred Alternative. The Bethany Reservoir Alignment would include two new intakes along the Sacramento River, a 45-mile-long tunnel, and a new pumping plant and aqueduct complex, among many other associated infrastructure facilities to support construction. Operating the new facilities in conjunction with the current State Water Project and Central Valley Project existing facilities would create a dual conveyance system. The Draft EIS states that DWR does not intend to apply for water rights to expand water quantity yet would achieve water supply increases relative to today's baseline in certain water year types and dual pumping scenarios.

The Draft EIS states that the U.S. Army Corps of Engineers has prepared the analysis to support its federal action to evaluate a Clean Water Act Section 404 permit regarding the placement of dredged or fill material into Waters of the U.S. as a result of construction of the proposed project. In addition, the applicant, DWR, previously prepared a Draft Environmental Impact Report (public comment period closed on December 16, 2022) to comply with the California Environmental Quality Act that analyzes impacts from the construction, as well as operation, of the project. The Draft EIS indicates that USACE has incorporated by reference the analysis of operational impacts presented in DWR's EIR. EPA reviewed applicable portions of the Draft EIR while reviewing the Draft EIS to inform our understanding of the potential impacts from both construction and operations. Please consider the recommendations described below, and further explained in the enclosed detailed comments, for your consideration as the project advances.

### *EPA 309 Review Summary*

While the project has been significantly scaled back since its inception, EPA continues to believe that the operation of the proposed project has the potential to cause or contribute to long-term exceedances of regulatory water quality standards. Our enclosed detailed comments identify opportunities to improve the analysis and modify the project to ensure these impacts are avoided as a part of the preferred alternative in the Final EIS. EPA requests continued engagement with USACE, as the lead NEPA agency, to resolve these issues.

### *Compliance with CWA Section 404(b)(1) Guidelines*

EPA notes that the Draft EIS presents information relevant to the USACE decision of whether to issue a CWA Section 404 permit for the proposed project, including information to evaluate compliance with the Section 404(b)(1) Guidelines. The Draft EIS assesses the effects of project operations qualitatively and refers readers to the Draft EIR for a quantitative analysis of project operations. While project operations have not yet been fully defined, even in the EIR, assessment of their potential impacts is required. The Guidelines require factual determinations of the secondary effects “associated with but not resulting directly from the actual placement of dredged or fill material,” and consideration of how the direct and secondary effects of the proposed project would contribute to cumulative effects on the aquatic ecosystem. In consideration of the CWA Section 404 permit issuance and compliance with the Guidelines, we continue to recommend analysis and disclosure of secondary effects, including, but not limited to: changes in the salinity gradient and the location and volume of the low salinity zone in all seasons; adverse effects on water quality including the amplification of water quality impairments; disruption of migratory corridors for salmonids and sturgeon; degradation of aquatic life beneficial uses; disruption and loss of ecosystem processes; reductions in cold water supply for migratory fishes in the upper watershed; and changes to wetland or river hydrology.

EPA reaffirms that the Delta Conveyance Project is a candidate for elevation pursuant to the 1992 Memorandum of Agreement between EPA and the Department of the Army implementing Section 404(q) of the Clean Water Act (“1992 MOA”). In EPA’s November 9, 2015 letter (herein after, “2015 3(b) letter”) on the California WaterFix project signed by Regional Administrator Blumenfeld, EPA stated that the proposed project will have substantial and unacceptable impacts on aquatic resources of national importance. In EPA’s October 10, 2020 letter on USACE’s Public Notice for the proposed project, EPA affirmed that the Delta Conveyance Project, while modified, includes the same impacts identified in the 2015 3(b) letter and thus remains a candidate for elevation to EPA Headquarters, Office of Water pursuant to the 1992 MOA.

### *Operational Constraints*

Because the operations proposed in the Draft EIR do not reflect all potential operational scenarios likely to be generated by ongoing regulatory processes, the amount of water that will be available for diversion through the proposed conveyance facilities may differ significantly from what was assumed for purposes of this EIS. The project should be designed and operated to meet all water quality standards, including those updates proposed by the State Water Resources Control Board. We reaffirm our recommendation that the federal and state lead agencies for Delta Conveyance carefully consider reasonably foreseeable operational constraints to ensure that the project is appropriately designed and operated to achieve water quality improvements and avoid unnecessary costs and environmental impacts.

*Community Engagement*

We note that DWR, as the lead agency under CEQA, has taken important first steps to gather input from the community regarding the potential impacts of the project. The proposed Delta Conveyance Project includes a Community Benefits Program that acknowledges that the direct project benefits related to State Water Project water supply reliability do not directly benefit the communities of the Delta and the project could have potential adverse effects that Delta communities would experience through the term of construction. EPA recommends continued engagement and implementation of meaningful and lasting positive projects with the tribes and disadvantaged communities that will be affected by the construction and ongoing presence of water infrastructure in the Delta.

We recommend synchronizing the NEPA and CEQA process as the project continues, including the publication of a joint Final EIS/EIR to best inform the public and decisionmakers, and to reduce the burden for the public to review two separate final documents. The EPA appreciates the opportunity to review this Draft EIS. When the Final document is released for public review, please provide an electronic copy and notification to Stephanie Gordon, the lead reviewer for this project, at (415) 972-3098 or [gordon.stephanies@epa.gov](mailto:gordon.stephanies@epa.gov). If you have any questions, please contact Stephanie Gordon or me at (415) 972-3308.

Sincerely,

Janice Chan  
Acting Manager, Environmental Review Branch

Cc via email: Zachary Simmons, United States Army Corps of Engineers  
Evan Sawyer, National Marine Fisheries Service  
Brooke White, Bureau of Reclamation  
Jana Affonso, United States Fish and Wildlife Service  
Diane Riddle, State Water Resources Control Board  
Kristina Reese, California Department of Water Resources  
Melissa Farinha, California Department of Fish and Wildlife

Enclosure: EPA's Detailed Comments

**EPA’S DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DELTA CONVEYANCE PROJECT, SACRAMENTO, CALIFORNIA – MARCH 16, 2023**

**Clean Water Act Section 404**

The Draft EIS presents information relevant to the U.S. Army Corps of Engineers decision of whether to issue a Clean Water Act Section 404 permit for the proposed project, including information to evaluate compliance with the Section 404(b)(1) Guidelines (Guidelines). Information to support factual determinations of the potential short-term or long-term effects of the discharges of dredged or fill material associated with the proposed project (40 CFR 230.11) on the aquatic ecosystem will ultimately help support findings of compliance or non-compliance with the Guidelines (40 CFR 230.12). The following comments concern additional information needed to support those factual determinations and findings.

***Secondary and cumulative effects on waters of the United States***

Section 1.8 of the Draft EIS assesses the effects of project operations qualitatively and refers readers to the Draft EIR for an in-depth analysis of project operations. While project operations have not yet been fully defined, assessment of potential operational impacts is required by 40 CFR 230. Specifically, factual determinations of the secondary effects “associated with but not resulting directly from the actual placement of dredged or fill material” (40 CFR 230.11(h)), and consideration of how the direct and secondary effects of the proposed project would contribute to cumulative effects on the aquatic ecosystem (40 CFR 230.11(g)) are required.

EPA’s review of the proposed project, as evaluated in the Draft EIS, indicates potential secondary effects include, but are not limited to: (1) changes in the salinity gradient and the location and volume of the low salinity zone in all seasons (40 CFR 230.25); (2) adverse effects on water quality including the amplification of water quality impairments; (3) disruption of migratory corridors for salmonids and sturgeon (40 CFR 230.30, 40 CFR 230.51); (4) decreases in the reproduction and survival of fishes (40 CFR 230.31); (5) degradation of aquatic life beneficial uses; (6) disruption and loss of ecosystem processes; (7) reductions in cold water supply for migratory fishes in the upper watershed; and (8) changes to wetland or river hydrology (40 CFR 230.23). In addition, the proposed project (Bethany Alternative) would result in reduced direct (fill) impacts to aquatic resources relative to other alternatives, but would also result in the construction of a new 6000 cubic feet per second (cfs) pumping station to allow the North Delta Diversion to operate independently of the existing Jones and Banks pumping stations in the South Delta. Since this new Bethany pumping station could be operated concurrently with the existing Jones and Banks pumping station, it has a potential to result in substantially higher volumes of water diverted from the estuarine ecosystem, even compared to other build alternatives.<sup>1</sup> These are important secondary effects of the Bethany Alternative that must be considered in the determinations required under 40 CFR 230.11(h).

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<sup>1</sup> “The project alternatives would provide an additional conveyance facility for transporting water from the north Delta for SWP/CVP export without changing the operational rules of other SWP/CVP facilities or the procedures for specifying the overall water supply allocations for their corresponding contractors. However, as part of a dynamic system, the opportunities for using the north Delta intakes for diversion of additional water supplies could result in changes in corresponding simulated river flows and reservoir storage levels even without any change in operational rules and procedures.” -p. 5-13 (draft EIR)

***Recommendation:***

Include a complete assessment of the secondary and cumulative<sup>2</sup> effects of each alternative, including those effects resulting from operations of the project when determining compliance with the Guidelines' restrictions on discharges (40 C.F.R. Part 230 Subpart B). While final project operations will be defined at a later date, the potential effects of increased water diversions under the proposed project, including the effects of increased diversion capacity under the Bethany Alternative, must be considered when determining compliance with the Guidelines. In the Final EIS, clearly identify what information will be used to assess secondary and cumulative effects of the discharges associated with the proposed project on waters of the United States in making the factual determinations required under 40 C.F.R. 230.11(h) and 40 C.F.R. 230.11(g).

***Analysis of alternatives***

As described in Chapter 3.5, the proposed project alternatives will require discharges of dredged or fill material into 61-226 acres of waters of the United States, including 13-85 acres of wetlands, as well as secondary and cumulative effects of project operations discussed above. The Guidelines require USACE to conduct an alternatives analysis that clearly demonstrates that the proposed discharges represent the Least Environmentally Damaging Practicable Alternative (LEDPA) that achieves the overall project purpose (40 CFR 230.10(a)). An alternatives analysis includes estimates of direct, secondary, and cumulative impacts on the aquatic ecosystem from each alternative considered. Secondary effects from the project alternatives, including the diversion of freshwater from Sacramento-San Joaquin Delta, present a potentially significant effect on the aquatic ecosystem and must be included in LEDPA identification.

***Recommendation:***

In the analysis of alternatives required under 40 CFR 230.10(a), consider all secondary and cumulative effects of each alternative, including the effects of increased diversions from the Sacramento-San Joaquin Delta through operations of a dual conveyance system. In the FEIS, include all relevant information to support a final LEDPA determination, including an assessment of the range of practicable alternatives following 40 CFR 230.10(a)(2) and an assessment of the direct, secondary, and cumulative effects on waters of the United States of each alternative.

***Significant degradation of waters of the United States***

The Guidelines also require that no discharge of dredged or fill material may be permitted which causes or contributes to significant degradation of waters of the United States, including significantly adverse effects on human health or welfare; life stages of aquatic life and other wildlife; aquatic ecosystem diversity, productivity, or stability; and recreational, aesthetic, and economic values (40 CFR 230.10(c)). As described in further detail below, the Delta is already experiencing degraded conditions due to

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<sup>2</sup> Cumulative impacts include past, present and reasonably foreseeable direct and secondary impacts to the aquatic environment. Historical impacts from multiple stressors on aquatic ecosystems include: (1) decades-long declines in native and migratory fish populations; (2) the mortality of native and migratory fish from operating the south Delta pumps; (3) loss of natural cold water inputs caused by historic destruction of wetlands, depletion of groundwater aquifers, and the current and future loss of snow pack from climate change; and (4) modified and reduced phytoplankton and zooplankton community composition and abundance. Cumulative impacts analyses include estimating impacts from foreseeable projects and potential new storage projects (e.g. Sites Reservoir, temporary urgency change petitions and salinity barriers, etc.).

insufficient inflow, increased surface water temperatures, invasive animal and plant species, harmful algal blooms, and sea level rise. As described in the Draft EIS and Draft EIR, the proposed project will not ameliorate any of these stressors and is likely to exacerbate many of them. In particular, secondary effects of the discharge on flow conditions downstream of the proposed diversions are likely to result from decreased Sacramento River flows, with multiple potential effects including reduced primary production (Draft EIR p. 12-171-174), reduced through-Delta survival of migratory fish (e.g., Draft EIR p. 12-121, 12-152), and degraded habitat conditions in receiving waters due to decreased turbidity and increased salinity. The Draft EIS discusses the ongoing difficulties of highly invasive plants such as water hyacinth in the Delta but does not include measures that would be implemented to reduce the spread and introduction of invasive species within the proposed project area. Cyanobacteria Harmful Algal Blooms (CHABs) are an emerging and significant source of degradation of waters of the United States in the Delta affecting aquatic life and recreational uses.

***Recommendation:***

Consider the direct, secondary and cumulative effects of the project as discussed above, practicable measures to minimize and compensate for adverse effects, and whether those effects would cause or contribute to significant degradation of waters of the United States before determining the project complies with the Guidelines required under 40 CFR 230.12. The Final EIS should include all information relative to permitting determination of no significant degradation, including water quality impairments and proposed avoidance, minimization and mitigation.

***Compensatory mitigation***

The EPA appreciates the inclusion of compensatory mitigation information in Appendix C3 in the Draft EIS, which will help guide development of a Mitigation Plan as required under 40 CFR 230.94(c). While compensatory mitigation requirements should not be determined until the applicant has demonstrated practicable avoidance and minimization required under the Guidelines as discussed above, compensatory mitigation actions may reduce the severity of those impacts to a level that would allow for the project to be permitted in compliance with the Guidelines without violating the prohibitions on significant degradation at 40 CFR 230.10(c).

Appendix C3 describes DWR's plan for compensatory mitigation for impacts to special-status species and aquatic resources. However, project impacts are not summarized in the appendix. Therefore, it is unclear how potential compensatory mitigation needs were used to develop this document, and whether the compensatory mitigation plan reflects consideration of the secondary and cumulative effects on waters of the United States discussed above. While the Guidelines direct USACE to first consider mitigation bank credits and in-lieu fee credits in determining mitigation requirements (40 CFR 230.93(b)), Appendix C3 describes a mixture of approaches to compensatory mitigation for aquatic resources, including both purchase of mitigation bank credits and development of permittee-responsible mitigation sites on Bouldin Island, the I-5 ponds, and tidal sites yet to be determined. Because the proposed project will impact a variety of aquatic resources for an extended period of time, EPA recommends the project be designed to incorporate a monitoring program with adaptive management to ensure compliance and assess effectiveness.

***Recommendations:***

Clearly identify how proposed compensatory mitigation will replace aquatic functions and services lost due to the direct, secondary, and cumulative effects of the proposed project (see 40 CFR 230.94(c)(6)).<sup>3</sup> The Mitigation Plan must also include a long-term management plan (40 CFR 230.94(c)(11)), an adaptive management plan (40 CFR 230.94(c)(12)) and financial assurances (40 CFR 230.94(c)(13)) to support a high level of confidence that compensatory mitigation will be successfully completed. In consultation with other agencies, USACE should update the tidal habitat mitigation framework to prioritize the use of Reusable Tunnel Material (RTM) at established sediment reuse sites such as the Cullinan Ranch Restoration Project or Montezuma Wetlands Restoration Project. The current approach to permittee-responsible mitigation actions in Appendix C3 may require revisiting if credits from third-party mitigation providers such as mitigation banks and in-lieu fee programs become available in the future. In the Final EIS, USACE should include a draft Mitigation Plan including the elements discussed above.

**Reusable Tunnel Material**

A significant amount of RTM would be generated by the project alternatives. According to the Draft EIS, the Bethany Reservoir Alignment would generate approximately 14.4 million cubic yards of bulk material (p.3.10-12). Chapter 2 indicates that excess RTM would be stored as stockpiles on-site at the Twin Cities Complex and Lower Roberts Island on both a temporary (i.e., 4-5 years) and permanent basis. Two types of stockpiles would be created: the excavated RTM and the topsoil removed from upland construction areas. RTM would be mixed with soil conditioners prior to excavation from the tunnels. We do not recommend synthetic conditioners or those that might contain unwanted biological and chemical properties such as untreated biosolids.

Chapter 2 states that “RTM generated by the tunnel boring machine is not proposed for reuse during construction of DWR’s Preferred Alternative” (pg 2-29) but it is not clear why RTM could not be reused for this alternative given the similarities in the project description among the alternatives. Further, the Draft EIS states “RTM handling at the Twin Cities Complex and Lower Roberts Island Tunnel Boring Machine launch shafts would be the same as described for other eastern alignment alternatives, except that mechanical dryers would not be used at Lower Roberts Island and no RTM would be transported for forebay construction” (p. 2-55). Finally, the Draft EIS states that the applicant would develop site-specific plans for the beneficial reuse of RTM to the greatest extent feasible for construction of the selected action alternative. EPA strongly advocates for the optimization of beneficial reuse of RTM for all Alternatives.

Due to the extensive quantities of soil and sediment material to be generated during construction of the project, we recommend USACE and DWR develop a holistic and proactive plan for soil and sediment management that addresses both short-term project goals and longer-term regional reuse opportunities. The plan should address both RTM and the sediment removed from operation of the sediment drying basins. We reiterate that RTM reuse during construction of the preferred alternative is ideal; for any material not reused during project construction, beneficial reuse is preferable to ‘wasting’ as permanent stockpiles with no functionality. Due to the Delta’s significant subsidence issues, other regional projects

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<sup>3</sup> Replacement ratios for lost aquatic resource functions can be defined using approved USACE methods, such as South Pacific Division’s Mitigation Ratio Setting Checklist:  
<https://www.spd.usace.army.mil/Portals/13/docs/regulatory/qmsref/ratio/12501-SPD.pdf>

such as levee nourishment and wetland restoration could strongly benefit from this critical and limited ‘building block’ material. Depending on the soil conditioners used during excavation, a large portion of RTM will likely be relatively free of contaminants and thus a cost-effective source of potential clean building material. For development of such a plan, regional partners could help identify viable reuse opportunities in the near future and early logistical synergies with these projects (e.g., where best to stockpile for future offsite transport) and establish collaborative agreements to utilize the RTM. At this point in time, EPA is not aware of any Regional Sediment Management program within the Delta; this project could provide a leveraging impetus.

***Recommendations:***

Develop a holistic and proactive plan for soil and sediment management that addresses both short-term project goals and longer-term regional reuse opportunities in conjunction with DWR.

Clarify why RTM cannot be reused during construction.

To increase the broad applicability to reuse RTM for ecological restoration and levee improvements, we highly recommend the use of organic-based soil conditioners.

Coordinate with regional partners to help identify an appropriate strategy and document potential ideas in a collaborative agreement, including California Department of Fish and Wildlife as a partner in planning for soil stockpile storage and reuse. EPA is aware of several habitat restoration projects within the Delta that are in the planning process and could potentially benefit from RTM, such as CDFW’s restoration of Franks Tract (contact: Melissa Farinha, CDFW Delta Habitat Conservation Environmental Program Manager), and Metropolitan Water District’s Bouldin Island project.

**Project Operations**

The operation of the Proposed Project has potential to increase the extent of ecological impacts already impacting the Delta and Sacramento River, including salinity, temperature, nutrients, and chemical contaminants. Pelagic and migratory fish species in the Delta and Central Valley rivers and streams have undergone dramatic declines over the past 50 years and are now at perilous levels. The declines are due in large part to freshwater diversion from the Sacramento River as part of state and federal water conveyance projects. According to the Draft EIS and EIR in the descriptions of the No Action Alternative and Existing Conditions, water reduction in the Sacramento River has led to increased Delta salinity, increased temperature in the Sacramento River and the Delta, altered circulation patterns within the Delta, which interferes with fish migration and leads to entrainment of fish and other aquatic organisms, and less water available in the Sacramento River for dilution of chemical contaminants. Moderate to high freshwater flows in Central Valley rivers and tributaries provide significant health benefits to residential and migratory fish and are correlated to increased abundance and productivity. Conversely, current flow levels in the Sacramento Rivers are correlated with declines in species abundance and productivity. Given that the status of many Delta fish species is threatened, endangered, or other description of imperilment, further diversion of Sacramento River water under the Project could very well lead to greater impairment or extinction.<sup>4</sup>

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<sup>4</sup> See EPA comments on the Bay-Delta Water Quality Control Plan(s) located at: <https://www.epa.gov/sfbay-delta/epa-comments-sf-bay-delta-water-quality-control-plan>.



Whether the Project will sustain and protect and ideally enhance Sacramento River and Delta ecology will depend predominantly on how it is operated, that is, the extent and schedule of diverted water and under what water year types the Project will be operated. The Draft EIS primarily evaluates construction and conveyance impacts and “incorporates by reference” operational impacts that were evaluated in the EIR. The operational impacts evaluated in the EIR were analyzed using only one scenario, namely existing operations under the Coordinated Operations Agreement as specified under the Bay Delta Water Quality Control Plan and applicable biological opinions under the Endangered Species Act. In evaluating ecological impacts, EPA recommends evaluation of multiple operational scenarios, especially operational scenarios in which ecological impacts are greatly minimized. In general, the Draft EIS lacks quantitative accounting of population-level impacts for species of management concern (e.g., changes in abundance, changes in population age-size structure due to life-cycle specific impacts) necessary to ensure that Project Alternatives adequately protect aquatic life designated uses for surface waters in the action area during the 12-14 year construction period and beyond.

The operational scenario evaluated in the Draft EIR (referenced to in the EIS) does not take into account significant recent and upcoming activities that affect the amount of available water for the Project. In particular, the Draft EIR’s evaluation of operation impacts does not consider the impacts of future storage projects that would require Sacramento River water or recent and upcoming updates to the Bay-Delta Water Quality Control Plan (WQCP). Overestimation of available water will lead to underestimating ecological impacts or water available for water users. Recent updates to the WQCP were adopted in 2018 for the San Joaquin River basin and the southern Delta. Adoption of upcoming updates to the Sacramento River basin and central Delta are expected in 2023. Implementation of the flow objectives for the San Joaquin River tributaries is discussed in the Bay Delta Plan, and candidate flow objectives for the Sacramento inflows, interior Delta flows, and Delta outflow are provided in the 2017 Scientific Basis Report and the 2018 Implementation Framework for the Sacramento River basin and central Delta updates. Such information is reliable in determining operational impacts. In its December 2022 comments to DWR on the Draft EIR, the State Board indicated its availability to assist in how updates to the Bay Delta Plan may affect the evaluation of Project operations.

It is difficult to determine the frequency, magnitude, and duration of water quality exceedances and the subsequent effect on beneficial uses. If modeling shows salinity generally increasing in the Delta after consideration of all the modeling limitations, this indicates that there will be less operational flexibility to meet water quality criteria as a direct result of project operations, and little room for error in operating the system in the future. As a result, we are concerned that the proposed project would make future compliance with water quality standards more difficult, thereby increasing the chances of exceeding water quality standards and failing to protect multiple beneficial uses.

***Recommendation:***

Please continue to work with the State Water Resources Control Board to develop scientifically sound and reasonably foreseeable operational scenarios. Develop an operational scenario for the Preferred Alternative that would optimize water exports in tandem with improvements in Delta outflow, hydrodynamics, and upper watershed conditions that would optimize aquatic life and water quality protection.

## Water Quality

### *Harmful Algal Blooms*

The Draft EIS states that cyanobacteria harmful algal blooms (CHABs) already occur in the Delta so there would not be a significant increase in the frequency and magnitude of CHABs from construction of any of the Action alternatives (p. 3.17-40). There is limited analysis of the frequency or severity of current HABs and cyanotoxins, or the anticipated increases due to climate change, so the Draft EIS analysis assumes HABs are there and will be there, instead of any in-depth assessment of CHAB species occurrence (changes in species presence), variations, or the duration, severity or aerial extent of CHAB occurrence. Numerous CHAB species are known to occur in the Delta as well as other cyanotoxins (e.g., anatoxins), with quite varied public health effects. Operations of the project could affect HABs, but this is not included in the Draft EIS.

The analysis in the Draft EIS inappropriately focuses on CHABs from *Microcystis* (and thus microcystin concentrations) (p. 3.17-52). “Compensatory mitigation would not result in markedly higher electrical conductivity (EC) levels in the Delta, Suisun Marsh, Suisun Bay, San Francisco Bay, or the SWP/CVP export service areas. Therefore, this impact does not appear to be significant” (p. 3.21-7). Operation of the project will change flows in the Delta and thus Delta assimilative capacity for EC. Higher EC is linked to the occurrence of another type of Harmful alga called *Prymnesium parvum* (also called Golden Algae) that causes fish kills and is present in Californian lakes. The Draft EIS acknowledges that “while these discussions estimate recreational effects on the statutory Delta as a whole, it is possible that recreational opportunities and quality in specific areas within the Delta would be affected by activities of the action alternatives more than the Delta as a whole” (pg 3.17-13).

The Draft EIS states that CHABs are not problematic in Cache Slough or Yolo Bypass based on visual observations of *Microcystis* collected by the applicant and the California Department of Fish and Wildlife. Visual observation of microcystis in Cache Slough is not a sufficient measure for the presence of CHABs. While visual observations may identify microcystis, there are other forms of CHABs where this is insufficient. Furthermore, the visual observations may be useful for identifying pervasive, high levels of microcystis but it does not effectively assess the presence, trends, and therefore risks of microcystis in a waterbody (p. 3.21-17). In addition, the Draft EIS misrepresents the impacts and mitigation measures of HABs when it says “the presence of vegetation would generally decrease the potential for CHAB formation because plants would likely outcompete cyanobacteria for nutrients and sunlight.” In actuality, Cyanobacteria tends to out compete native vegetation. Therefore, relying on the vegetation in the tidal habitat is not an adequate means of mitigating CHAB concerns.

The Draft EIS further states “the design of the tidal habitats is such that there would be daily hydrologic exchange that would ensure that there would not be substantially increased residence time compared to adjacent habitats.... Based on the above findings, under all action alternatives the effects on CHABs resulting from compensatory mitigation does not appear to be significant.” (p. 3.21-17 & 18). The HAB event in San Francisco Bay this summer as well as regular blooms in the Delta demonstrate that mixing gradients and residence time do not prevent substantial cyanobacteria production.

The Draft EIS acknowledges that the project proposes to create waterbodies - the construction of one or two north Delta intake facilities between River Mile (RM) 42 (south of Freeport) and RM 37 (north of the town of Courtland), the Twin Cities Complex, other tunnel launch, reception, and maintenance sites, and the Southern Complex or Bethany Complex. Additionally, “certain tidal habitats could create new

“seed” areas for CHABs. This could result in long-term increases in the frequency and size of CHABs within the Delta in the vicinity of new tidal habitats, relative to the No Action Alternative and, therefore, could potentially increase health risks to people recreating in the vicinity.” (p. 3.17-41). “Mitigation Measure WQ-14: Develop and Implement a CHAB Management and Monitoring Plan would be implemented with the goal to mitigate the potential for increases in CHAB formation and, thus, human exposure to cyanotoxins, within compensatory mitigation sites” (p. 3.17-53). However, the analysis incorrectly says “types of compensatory mitigation (i.e., valley/foothill riparian, freshwater emergent perennial wetland, seasonal wetland, lake/pond)... would not be hydrodynamically connected with Delta channels... As such, these other types of new habitats would not affect CHAB formation within the Delta, relative to the No Action Alternative.” (p. 3.17-41). Hydraulic connection is not necessary for these areas to form CHABs and cyanotoxins that could impact public health e.g., thru direct contact, aerosol transport and other mechanisms of release of the CHABs or cyanotoxins, and the likelihood of CHABs should be addressed in the analysis.

***Recommendations:***

Revise the Final EIS to clearly address and analyze all types of CHABs and cyanotoxins to accurately reflect the current setting and potential impacts.

In the Final EIS, address the threats of increased salinity and potential to increase *Prymnesium parvum* blooms and fish kills; this should include the coordination with the Central Valley-Salinity Alternatives for Long-term Sustainability Program (CV-SALTS), Sustainable Groundwater Management Act and Irrigated Lands Regulatory Program regarding discharges of nitrates and salts to the Delta (CV-SALTS compliance point is in the San Joaquin River at Vernalis).

Consider including more thorough testing measures and reporting requirements in the mitigation measures for the proposed project.

**Environmental Justice**

The Draft EIS identifies communities with environmental justice concerns throughout the California Sacramento-San Joaquin Delta that will be directly impacted by the proposed project’s construction timeframe and long-term land management. Prior to publication of the Draft EIS and Draft EIR, DWR engaged with several communities. People of color, low-income households, and Tribes participated through multiple surveys and virtual public engagement sessions. DWR was unable to communicate project impacts because at the time of public engagement, the impacts were not yet known.<sup>5</sup> The Draft EIR states that participants would welcome further engagement and the opportunity to provide additional feedback. According to the Draft EIS, this outreach led to the development of a framework for a Community Benefits Program which would fund a broad range of programs and projects specifically designed to benefit communities. The Draft EIS presents the Community Benefits Program as a component of the proposed project intended to offset unavoidable construction impacts that communities would experience throughout a 13-year period. Should DWR approve the Delta

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<sup>5</sup> “Because the CEQA environmental review process is just beginning and impacts are not yet identified, we were limited to indicating that there could be potential impacts and benefits to the project, but we could not describe what those impacts and benefits could include. However, not being able to share potential impacts meant that it was hard to gain attention from DAC [disadvantaged community] communities” (Environmental Justice Community Survey Report, Appendix 29A of the EIR, p. 115).

Conveyance Project, the Community Benefits Program would be a part of that approval and implemented consistent with all other components of the project.

***Recommendations:***

For the remainder of the environmental review process, engage the community throughout every future phase of the project (i.e., continuous feedback loop) and on an ongoing basis (e.g., monitoring and adaptive management). Continue extensive public outreach to ensure that potentially affected communities understand the project process and impacts and have the tools to provide feedback.

Explain how potential construction impacts of the project on roadways could affect low-income communities with high numbers of car-less households. Include information that focuses on how community members utilize roadways and obtain input from the community regarding the potential impacts of increased congestion and detours. Mitigation for construction-related impacts to people of color and low-income populations could include the provision of reduced-price bus passes during construction.

Consider communicating project impacts to the same individuals that participated during the public engagement sessions, and work closely with the community to make a recommendations regarding further minimization of impacts and next steps. Consider hiring a multilingual ombudsman that speaks Spanish, Chinese, and Tagalog.

As the project advances to final design, identify in the Final EIS, community perspectives regarding impacts, and how USACE has incorporated community perspectives into the project design, operations considerations, and mitigation measures. If USACE determines that specific community perspectives are not applicable to the proposed action, identify supporting information for such a determination in the Final EIS.

Describe how DWR plans to prioritize programs and/or projects funded through the Community Benefits Program and who will benefit from these programs and/or projects, and why. Include a timeline of when the community can expect these benefits to start and end. Include relevant information from Appendix 3G of the EIR in the Final EIS.