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via email: LTO@water.ca.gov

You Chen Chou
California Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

Subject: Restore the Delta comments on Draft Environmental Impact Report (DEIR) for Long-term Operation of the California State Water Project

Dear You Chen Chou:

Restore the Delta advocates for local Delta stakeholders to ensure that they have a direct impact on water management decisions affecting the water quality and well-being of their communities, and water sustainability policies for all Californians. We work through public education and outreach so that all Californians recognize the Sacramento-San Joaquin Delta as part of California's natural heritage, deserving of restoration. We fight for a Delta whose waters are fishable, swimmable, drinkable, and farmable, supporting the health of the San Francisco Bay-Delta Estuary, and the ocean beyond. Our coalition envisions the Sacramento-San Joaquin Delta as a place where a vibrant local economy, tourism, recreation, farming, wildlife, and fisheries thrive as a result of resident efforts to protect our waterway commons.

We appreciate the opportunity to comment on this DEIR for the above-described action by the California Department of Water Resources (DWR). It is our understanding that the EIR for long-term operations of the State Water Project (SWP) would have the following applications:

- It will be used by the California Department of Fish and Wildlife (CDFW) as a basis for issuing new incidental take permits (ITPs) to DWR for four listed species: long fin smelt, Delta smelt, winter-run Chinook salmon, and spring-run Chinook salmon. Consequently, we expect there will be a substantial fisheries/aquatic biology section of this document. In this connection, aquatic biology and ecosystem issues will be critical to the adequacy of this EIR.

- The new EIR will evaluate operations "consistent with applicable legal requirements" and that those operations include close coordination with the federal Central Valley Project (CVP), including the Coordinated Operating Agreement (COA) between the CVP and the SWP as well as operational requirements resulting from ongoing re-initiation of federal Endangered Species Act (ESA) consultation on coordinated long-term CVP and SWP operations.

- We wondered in our NOP comments why the two projects are not doing a coordinated EIR/EIS under both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA)—together, rather than separately. The NOP says that DWR and USBR requested re-initiation of consultation with FWS and NMFS on their coordinated operations, yet their environmental reviews will proceed separately. We urged DWR that this separation of the long-term operations environmental reviews needs more explanation so that the public may adequately understand DWR's reasoning.

- We understand from the NOP issued in April 2019 that new, updated operating criteria will be operated particularly in the Delta (Banks PP, Suisun Marsh Salinity Control Gates, and North Bay Aqueduct), and will be evaluated. We understand these new operating criteria also include the new COA changes negotiated in December 2018 between the US Bureau of Reclamation and DWR.

General Comments

Summary of Specific Comments:

1. The baseline date for this DEIR is improperly set.

2. The COA Addendum results in significant changes to Delta hydrology and water quality—specifically in dry and critically dry years.

3. Climate change sensitivity analysis is likely not sensitive enough to the effects of climate change, rendering DEIR impacts analysis inadequate.

4. The DEIR fails to evaluate SWP long-term operations as necessarily involving climate change adaptations, since it is long-established articles of faith among California water agencies that climate change will affect their adaptations to reduced water supplies.

5. The DEIR fails to take account of how the COA Addendum may reduce State Water Project's capacity to adapt to climate change.

6. The DEIR provides no sea level rise analysis for long-term operations of the SWP (including a single tunnel project) as it would affect Delta operations.

7. The DEIR does show that, even under these flawed assumptions about climate change, dramatic reductions in both spring and fall Delta outflow from the modeling addenda—this will harm endangered fish, Suisun Marsh, and Delta drinking water quality. In turn these latter effects on Delta water quality will likely raise the cost of drinking water for Delta environmental justice communities.

8. Reduced San Joaquin River flows signal that under proposed long-term SWP operations, conditions will occur more frequently in the near future conducive to growth of harmful algal blooms (HABs).

9. The increased salinity and HABs presence in these waters would increase water treatment costs and potentially impose water rate hikes to cover those rising costs. Increased water rates would disproportionately impact environmental justice ratepayers in communities affected by these adverse changes in local water quality.

10. The Draft EIR masks such potential significant impacts of SWP long-term operations by failing to analyze predicted increased salinity in late-fall to early winter in relation to whether it violates state and federal clean water antidegradation policies.

11. Long-term average water quality monthly averaging of water quality conditions is completely inadequate as a methodology for properly evaluating whether water quality degradation occurs. The modeling and impact evaluation must identify the potential number of days in which such violations do occur and whether they exceed the policy and time period.

12. The DEIR should address the potential for impacts to the Stockton water diversion, since that was a significant point of contention concerning the flow and salinity impacts of California WaterFix, before this latter project was cancelled by the Newsom Administration. Restore the Delta is concerned that flow and salinity impacts—and potential HABs impacts—will drive up water treatment costs for the City of Stockton and its water ratepayers, in neighborhoods affected by adverse changes in drinking and surface water quality.

13. DWR must incorporate into its SWP operational program steps it will take to reduce or eliminate HABs in the Delta. The DEIR is fundamentally inadequate in omitting HABs as a problem for public health and environmental justice in the Delta.

14. Despite human reliance on subsistence fishing throughout the Delta and Suisun Marsh, the DEIR contains no environmental justice impacts discussion on the Delta, nor cumulative EJ impacts if increased exports continue to degrade Delta water quality.

15. Increased presence of stressors like selenium and mercury from alterations to hydrology (flow volume, timing, and magnitude) and water quality could increase

food web pathways to humans relying on subsistence fishing. The DEIR fails to analyze these potential effects on humans

16. The DEIR fails to properly evaluate how worsening salinity and other water quality constituents all over Suisun Marsh would reduce subsistence fishing opportunities throughout the marsh for Delta EJ residents reliant on fish in this and other parts of the San Francisco Bay-Delta Estuary.

17. The DEIR fails to mitigate modeled degradation of drinking water quality for Contra Costa Water District at Rock Slough and Antioch intakes. Degradation of water quality is not lawful under the federal Clean Water Act, the state Porter-Cologne Water Quality Control Act, and State Water Resources Control Board Resolution 68-16, none of which authorize degradation of water quality.

18. The single-tunnel option is not listed among cumulative impact projects in Table 4.6-1 of EIR. Does this mean that DWR regards it as a speculative project at present? Once the design is put forward DWR must issue a supplemental EIR on long-term operations of the SWP since operations will change to accommodate tunnel capacity and operational rules.

Thank you for the opportunity to comment on this DEIR. If you have any questions, do feel free to contact us.

Sincerely

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Attachments:
1. Restore the Delta, *Climate Equity and Seismic Resilience for the San Francisco Bay-Delta Estuary*, August 2019.
2. Screen shots of DEIR showing searches showing no environmental justice or public health analyses or mitigations.

cc: Michelle Ghafar, Earthjustice
Nina Robertson, Earthjustice
Thomas H. Keeling, The Freeman Firm
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Adam Keats, Center for Food Safety
Doug Obegi, NRDC
Kate Poole, NRDC
Jon Rosenfield, San Francisco Baykeeper
Gary Bobker, The Bay Institute
Noah Oppenheim, PCFFA
John McManus, Golden State Salmon

Attachment 1
Specific Restore the Delta Comments
State Water Project Long-Term Operations Draft EIR

1. The baseline date for this DEIR is improperly set. The DEIR states that its baseline is set at April 19, 2019 (or the actual release date of April 22, 2019, that Michele Banonis stated at the NOP hearing in May 2019. (DEIR, p. 4-2.). However, there is no explanation as to why its baseline date is not the date of the Coordinated Operating Agreement Addendum (COA Addendum) executed on December 12, 2018. It is strange and nonsensical for the DEIR to state that "The baseline used in this DEIR includes the 2018 COA Addendum, as opposed to the unmodified 1986 version of the COA, to accurately reflect the existing conditions in the Delta as of April 19, 2019." The reason it should be the date of the COA Addendum is that this seems to be the date of operational rules that made it necessary for the NOP to be issued and the DEIR prepared in the first place. It is ***this*** date (that is December 12, 2018) that chronologically includes the NOP date, and not the other way around. If DWR wants to include the COA Addendum as "part" of the baseline, just make its execution date the baseline date for the DEIR.

2. The COA Addendum results in significant changes to Delta hydrology and water quality—specifically in dry and critically dry years. We disagree that the changes

represented in the COA Addendum resulted in a "minimal change" to surface water hydrology in the Delta, upstream hydrology, and upstream water quality. (DEIR, p. 4-2.) This completely glosses over the fact that the COA Addendum reveals that CVP reservoir storage will gain average storage levels year-round, while the State Water Project's Lake Oroville will shoulder much greater responsibility for meeting flow obligations under D-1641 and the 2006 Bay-Delta Water Quality Control Plan (See DEIR, p. 4-2, compared with Appendix B COA Addendum, Figures 2, 8, 10, and 12.). The Central Valley Project reservoirs serve primarily agricultural water contractors, while the State Water Project serves primarily urban water contractors, many of whose customers are residential water users.

3. Climate change sensitivity analysis is likely not sensitive enough to the effects of climate change, despite being based on the more recent CMIP5 model suite (which we saw discussed in some detail in Appendix F of Volume 2 of the DEIR). We find that the hydrology and water quality portions of Chapter 4 do not specifically indicate what the sensitivity ranges are for the impacts that are described in Sections 4.2, hydrology, and 4.3, water quality, so a reasonable reader cannot know what the sensitivity ranges are for the findings made in these sections. In addition, we find too that Appendix F does not incorporate more recent science on potential hydrologic, water quality, and temperature impacts derivable from climate change models used in California's own Fourth Climate Assessment from 2018. The hydrology that is used in CalSIM II is still the 82-year historical hydrology, rather than hydrologic modeling inputs available from the Fourth California Climate Assessment—this means that DWR is continuing to look historically at hydrology rather than to future modeling where "stationarity is dead" as a broad understanding of climate science; in the Central Valley this means that the past is not a guide to future hydrology and water quality.

4. The DEIR fails to evaluate SWP long-term operations as necessarily involving climate change adaptations, since it is long-established articles of faith among California water agencies that climate change will affect their adaptations to reduced water supplies. It might be objected by DWR that reliance on future modeling would be speculative—rather than on CalSIM II's 82-year hydrology record—for the required CEQA analyses of hydrology, water quality, aquatic resources, and tribal cultural resources. This would be ironic, since DWR and many other state agencies are making policy and investment decisions today about the future based on modelers' best analytic and scientific efforts to peer into the future. For example, several reports to the California Energy Commission (whose authors included DWR or other state water-related employees) that supported the 2018 Fourth California Climate Assessment rely on downscaling of general circulation models used in standard climate modeling research to construct future hydrology and water quality projections. These reports find that developed water supplies, including those of the state and federal projects, will decrease substantially as climate change unfolds in California. Such supply reductions are not contemplated in this DEIR. DWR is clearly using a stationarity-based modeling approach for this DEIR concerning its *long-term*

operations of the State Water Project. DWR's decision to avoid hydrological and water quality modeling that is future oriented renders the DEIR fundamentally and functionally inadequate to the task of evaluating the environmental impacts of SWP long-term operations.

5. Thus while purporting to analyze climate change impacts of the proposed COA Addendum, the DEIR instead fails to take account of how the COA Addendum may reduce State Water Project's capacity to adapt to climate change. We already know from the COA Addendum that Lake Oroville will be called upon much more to "backstop" water quality objectives while the Central Valley Project continues to export water from the Delta. This likelihood is supported by Appendix C, Attachment 2-1, Table 1c-1 showing monthly average decreases in south-of-Delta SWP exports of between 2 thousand acre-feet (TAF) and 28 TAF from CalSIM II modeling at San Luis Reservoir in critical years—nearly year-round. There is no analysis in the DEIR of the potential for climate-change-induced reduced reservoir storage, Delta exports, Delta outflow, or degraded water quality and increased flood risk impacting long-term operations of the State Water Project—and most important, whether the SWP can properly adapt to such conditions while remaining operationally and financially viable. We attach Restore the Delta's discussions of these issues in our *Climate Equity and Seismic Resilience* report which we issued in August 2019 where we summarize key California Fourth Climate Assessment report findings in relation to water supply, flooding, Delta levee issues, and river flow. See especially Chapter 3 and Appendix E in our report.

6. The DEIR provides no sea level rise analysis for long-term operations of the SWP (including a single tunnel project) as it would affect Delta operations. Only precipitation and temperature changes were considered. Clifton Court Forebay is at very low elevation. Analysis is needed to determine the potential for inundation at SWP intakes at tunnel project intakes in the north Delta and at Clifton Court Forebay and Banks Pumping Plant. Since the DEIR considers tunnel project intakes as part of a cumulative projects list, this analysis is absent, except for listing the tunnel in the cumulative impacts chapter. This project is in design now by the Delta Conveyance Design and Construction Authority; it is not speculative. Therefore more detailed analysis of the cumulative impacts of sea level rise is needed in this DEIR as well as discussion of how SWP long-term operations would mitigate sea level rise at the tunnel intakes. But such analysis is omitted from the DEIR. Therefore the DEIR is inadequate.

7. The DEIR does show that, even under these flawed assumptions about climate change, dramatic reductions in both spring and fall Delta outflow from the modeling addenda—this will harm endangered fish, Suisun Marsh, and Delta drinking water quality. In turn these latter effects on Delta water quality will likely raise the cost of drinking water for Delta environmental justice communities.

8. The DEIR modeling appendix shows that San Joaquin River monthly average flows at Vernalis will decrease on average between 7 and 212 cubic feet per second (cfs) From winter through fall months in critical years, and between 4 and 238 cfs in dry years. (Attachment C, Attachment 2-2, Table 5-1.) These are crucial water year types where the river's ecosystems and subsistence fishing species need more flow for improved water quality (not only for salinity but to help control water temperatures). Yet these reduced San Joaquin River flows signal that under proposed long-term SWP operations, conditions will occur more frequently in the near future conducive to growth of harmful algal blooms (HABs). HABs have been plaguing south Delta and Stockton area river channels, including Mormon Slough near downtown Stockton.

9. In addition to reduced San Joaquin River flows, Old and Middle River reverse flows (upstream flow to the state and federal pumps near Tracy and Byron) will also increase dramatically in dry and critically dry years. (Appendix C, Attachment 2-2, Table 7-1.) These flow changes strongly signal that salinity will worsen and residence time of water in areas like Discovery Bay, and Contra Costa Water District's drinking water intakes located in Rock Slough, Victoria Island, and Middle River. Reduced downstream flows in these areas will increasingly trap cyanobacteria and generate more harmful algal blooms. The increased salinity and HABs presence in these waters would increase water treatment costs and potentially impose water rate hikes to cover those rising costs. Increased water rates would disproportionately impact environmental justice ratepayers in communities affected by these adverse changes in local drinking and surface water quality. The DEIR does not recognize these potential impacts, focusing as it does only on the impacts of salinity and HABs to aquatic species, while ignoring public health and economic impacts to environmental justice communities.

10. A project can have a significant impact on the environment even when an adopted water quality standard is not found to be violated. The Draft EIR masks such potential significant impacts of SWP long-term operations by failing to analyze predicted increased salinity in late-fall to early winter in relation to whether it violates state and federal clean water antidegradation policies. Degraded salinity conditions do in fact violate CEQA for failing to provide mitigation measures for such a significant impact, and violate Clean Water Act and State Water Resources Control Board's Resolution 68-13 concerning degradation without providing any or adequate justification for which such degradation should be allowed to occur.

11. Long-term average water quality monthly averaging of water quality conditions is completely inadequate as a methodology for properly evaluating whether water quality degradation occurs. The modeling and impact evaluation must identify the potential number of days in which such violations do occur and whether they exceed the policy and time period. This is especially important for conditions throughout the Delta relating to salinity and water quality factors relating to HABs (e.g., temperature, salinity, light, water clarity, and presence of nutrients such as nitrogen and

phosphorus. On this basis the water quality analysis in the Draft EIR is inadequate, and should be supplemented with additional analysis of such impacts.

12. Reduced flows into and through the Delta under long-term SWP operations means that salinity of in-Delta waters will increase. This is shown in Appendix C, Attachment 2-7, Tables 5-1 through through 15-1, which include salinity modeling results for such central and south Delta locations as Jersey Point, Prisoners Point, and San Andreas. Along with other salinity monitoring stations, results at these locations suggests there will be additional water quality impacts close to the Stockton water diversion at Empire Tract. Delta Cross Channel flow results (Appendix C, Attachment 2-2, Table 2-1) indicates between 72 and 223 cfs monthly average decreases in flow in October an area near the Stockton water diversion. The DEIR should address the potential for impacts to the Stockton water diversion, since that was a significant point of contention concerning the flow and salinity impacts of California WaterFix, before this latter project was cancelled by the Newsom Administration. Restore the Delta is concerned that flow and salinity impacts—and potential HABs impacts—will drive up water treatment costs for the City of Stockton and its water ratepayers, in neighborhoods affected by adverse changes in drinking and surface water quality. The DEIR does not recognize these potential impacts, focusing as it does only on the impacts of salinity and HABs to aquatic species, while ignoring public health and economic impacts to environmental justice communities.

13. Restore the Delta incorporates into this letter by reference our five-minute video on Harmful Algal Blooms in the San Francisco Bay-Delta Estuary, accessible at https://www.youtube.com/watch?v=NCoKBlEJph0. It briefly describes the causal factors leading to harmful algal blooms. In addition, the long-term SWP operations DEIR needs to commit the proposed project to far more intensive HABs monitoring and data sharing. Recently, we learned that DWR scientists gathered data on 2019 HABs in the Delta and found a total of eleven (11) different species of cyanobacteria that bloom, many of which have cyanotoxins. Withholding this data from water quality regulators and the impacted public in our view is dangerous and reckless management of California water resources.

    The most well-known cyanotoxin is microcystin from the *Microcystis* species. Even more disturbing than the biodiversity of cyanobacteria in the Delta is that some species' cyanotoxins can become airborne, meaning that HABs are not just toxic when ingested by humans or dogs, but may be inhaled by human beings next to or not far from water bodies where HABs are present. This raises a serious public health concern for Delta residents in warm seasons. Of course the HABs typically subside and dissipate once higher flows, colder water, and more wintry weather prevail, as occurred at the end of October and early November 2019 when San Joaquin River flows increased, yet they will rebloom when warm weather returns, worsening and spreading each year, until water quality and quantity conditions are improved.

Since, under climate change conditions, it is expected that warmer temperatures are expected to occur throughout the Delta and Central Valley, DWR must incorporate into its SWP operational program steps it will take to mitigate, reduce, and eliminate HABs in the Delta. Moreover, DWR should consult with the California Air Resources Board (CARB) to implement an air monitoring program for cyanobacteria to incorporate into its SWP operational program for Stockton waterways adjacent to the San Joaquin River. Stockton environmental justice tracts near the Port of Stockton and South Stockton waterways were recently awarded AB617 status to foster improved air quality conditions. The proliferation of airborne cyanobacteria could undercut other efforts to improve air quality for these impacted environmental justice communities. Thus, the DEIR is fundamentally inadequate in omitting HABs as a problem requiring mitigation and elimination for public health and environmental justice in the Delta.

14. Despite human reliance on subsistence fishing throughout the Delta and Suisun Marsh, the DEIR contains no environmental justice impacts discussion on the Delta, nor cumulative EJ impacts if increased exports continue to degrade Delta water quality. In fact, the phrase, “environmental justice,” does not appear in the 610 page DEIR, nor does “public health.” (See attachment 2 to this letter.) This renders the DEIR inadequate under California civil rights law and the California Environmental Quality Act.

15. Increased presence of stressors like selenium and mercury from alterations to hydrology (flow volume, timing, and magnitude) and water quality could increase food web pathways to humans relying on subsistence fishing. The DEIR fails to analyze these potential effects on humans, instead focusing primarily on contaminant impacts to salmonids and Delta smelt in the water quality discussion of the DEIR. The absence of a public health or environmental justice analysis of this potential contamination effect on human subsistence fishing in the Delta renders this DEIR inadequate.

16. The DEIR fails to properly evaluate how worsening salinity and other water quality constituents all over Suisun Marsh would reduce subsistence fishing opportunities throughout the marsh for Delta EJ residents reliant on fish in this and other parts of the San Francisco Bay-Delta Estuary. Appendix C, Attachment 2+ modeling analyses for Suisun Marsh locations indicate dramatic increases in salinity, electrical conductivity and chloride concentrations.

17. The DEIR fails to mitigate modeled degradation of drinking water quality for Contra Costa Water District at Rock Slough and Antioch intakes. Degradation of water quality is not lawful under the federal Clean Water Act, the state Porter-Cologne Water Quality Control Act, and State Water Resources Control Board Resolution 68-16, none of which authorize degradation of water quality. The DEIR is inadequate for failing to mitigate this degradation to drinking water quality as a public health and environmental justice impact.

18. The single-tunnel option is not listed among cumulative impact projects in Table 4.6-1 of EIR. Does this mean that DWR regards it as a speculative project at present? Once the design is put forward DWR must issue a supplemental EIR on long-term operations of the SWP since operations will change to accommodate tunnel capacity and operational rules.