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Wade Crowfoot
California Secretary for Natural Resources
California Natural Resources Agency
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Delta Conveyance Scoping Comments
Attn: Renee Rodriguez
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236
Email: DeltaConveyanceScoping@water.ca.gov

Re: Notice of Preparation of EIR for the Delta Conveyance Project

Dear Secretary Crowfoot,

Thank you for the opportunity to review the Department of Water Resources' (DWR) January 15, 2020 Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Delta Conveyance Project and have the following scoping comments on this modified but basically unchanged proposal.

This proposal is best described by the well known quote: ***The definition of insanity is doing the same thing over and over again and expecting a different result.***

This single tunnel version is a barely different, somewhat smaller (up to 7,500 cfs compared to 9,000 cfs), version of the seriously flawed California WaterFix project.

On May 2, 2019, DWR Director Nemeth withdrew the project approval of the WaterFix project and rescinded DWR's accompanying California Environmental Quality Act (CEQA) notice of determination. DWR in coordination with the U.S. Bureau of Reclamation (Reclamation) also notified the State Water Resources Control Board (SWRCB) they were withdrawing the pending Petition for Change in Points of Diversion and Rediversion (CPOD Petition) for the State Water Project (SWP) and Central Valley Project (CVP) and the related application for Section 401 certification for WaterFix. The applications for a Department of the Army permit under Section

10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act were also officially withdrawn (May 3, 2019).

These withdrawals were necessary in large part because the Delta Stewardship staff had made a draft finding that WaterFix was not consistent with the Delta Plan¹.

The DSC staff draft determination found that DWR's Certification of Consistency was **not** supported with respect to the five Delta Plan policies:

- Full consistency infeasible, but on the whole the covered action is consistent with the coequal goals (23 CCR § 5002, subd. (b)(1)) (“G P1(b)(1)”)
- Best Available Science (23 CCR § 5002, subd. (b)(3)) (“G P1(b)(3)”)
- Reduce Reliance on the Delta Through Improved Regional Water Self Reliance (23 CCR § 5003) (“WR P1”)
- Delta Flow Objectives (23 CCR § 5005) (“ER P1”)
- Respect Local Land Use When Siting Water or Flood Facilities or Restoration Habitats (23 CCR § 5011) (“DP P2”)

Similarly, the SWRCB had received substantial credible testimony from protestants in the CPOD Petition hearings demonstrating that WaterFix would significantly harm Delta, Bay and Central Valley beneficial uses including endangered and threatened fish species, Delta water quality and Delta water supplies.

DWR would not have taken the drastic step of abandoning the WaterFix project, withdrawing the water right change petition and throwing out a very expensive certified environmental impact statement, if DWR had not recognized the twin tunnel proposal and its operations were seriously flawed and likely to receive embarrassing and potentially project-ending regulatory agency denials.

The NOP at the top of page 9 states: “*As described above, the proposed project has been informed by past efforts taken within the Delta and the watersheds of the Sacramento and San Joaquin Rivers, including those undertaken through the Bay Delta Conservation Plan (BDCP)/California WaterFix.*” This is clearly incorrect. DWR has apparently learnt nothing from its narrowly focused studies of the past about the need for additional south-of-the-Delta storage and completely different operations to ensure a true “Big Gulp, Little Sip” solution.

¹ Determination Regarding Appeals of the Certification of Consistency by the California Department of Water Resources for California WaterFix. Staff Draft. November 19, 2018 <https://coveredactions.deltacouncil.ca.gov/Services/download.ashx?u=018bccad-02c2-4b2c-a8bd-6264896014f1>

Starting over again, essentially from scratch, with the same flawed conveyance-only concept is indeed madness and is **doomed to fail, again.**

My scoping comments are listed below followed by a detailed discussion of each comment.

1. The EIR must analyze a full range of alternatives
2. The EIR must analyze a holistic Delta solution comprising of a portfolio of actions.
3. The EIR must extend the previous modeling period for reservoir and Delta operations and Bay & Delta water quality
4. CalSim operations modeling for the EIR must meet SWRCB urban water quality standards
5. Analysis of the water quality impacts of the proposed project in the EIR must use the full available historical period, 1922-2019
6. The presentation of modeling data and disclosure of environmental impacts in the EIR must be in a form that is usable and useful for decision makers and the public
7. The EIR must fully mitigate any significant water quality impacts of the proposed project
8. The EIR must fully model the infrastructure required to comply with the settlement agreement with the Contra Costa Water District
9. The EIR must analyze alternatives that implement enhanced Delta outflows consistent with the SWRCB's 2010 Delta Flow Criteria Report
10. The EIR alternatives must include Fall X2 objectives
11. The EIR should use a Daily Operations model
12. DWR should establish a technical workgroup to provide input to development of the EIR and make modeling data available to the public as early as possible
13. The EIR must include alternatives where the SWP export diversions to Clifton Court Forebay are fully screened
14. Other EIR Modeling Requests

Detailed Discussion

The EIR must analyze a full range of alternatives

As stated in CEQA Guidelines Section 15126.6(a), the "*EIR shall describe a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible*

alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.”

The January 15 NOP states that “*the scoping process will inform preliminary locations, corridors, capacities and operations of new conveyance facilities to be evaluated in the EIR.*”

However, the previous October 2006 – April 2015 Bay-Delta Conservation Plan (BDCP) and May 2015 - May 2019 WaterFix projects failed because they focused on a Delta-conveyance-only solution. Without additional storage in the south-of-Delta export areas, these two proposed projects were consistently unable to capture, export and store significant amounts of water during periods of high Delta flows (wet months), i.e., they were unable to consistently take a Big Gulp. During storm events, San Luis Reservoir filled and then there was nowhere to use (wet fields, low demand) or rapidly store any more exported water and export pumping was cut way back. This isn’t a biological opinion restraint, an operational issue, or a conveyance limitation. It is due to a lack of export area surface storage.

Similarly, because a conveyance-only project is unable to capture sufficient water when it is plentiful and less harmful to the Delta ecosystem and Delta water quality meant the BDCP and WaterFix had to rely on (i.e., continue and increase) exports from the Delta during periods of low Delta flow when the Delta ecosystem was most vulnerable and Delta salinities were already high (dry months), i.e., they were unable to limit themselves to taking a Little Sip and reducing SWP and CVP reliability on the Delta for their water supply (Cal. Water Code §85021).

The current NOP states that “*DWR is currently considering alternatives with capacities that range from 3,000 to 7,500 cfs, with varying degrees of involvement of the CVP, including no involvement.*” DWR also proposes to consider two different tunnel routes under the Delta, one of which, in December 2019, was found by a group of engineers from major tunneling companies around the world to be infeasible. This Independent Technical Review Panel convened by the Delta Conveyance Design and Construction Authority (DCA) recently found that constructing the main tunnel in the original WaterFix project footprint was impractical due to access issues, and that the tunnel muck was likely not reusable².

The NOP proposes only one feasible tunnel route and a range of tunnel capacities, but does not consider any meaningful alternatives such as water conservation and local water supply actions to reduce export water demand from the Delta, joint storage-conveyance alternatives that would allow actual “Big Gulp, Little Sip” operations, or any enhanced through-Delta alternatives. It is frustrating and unacceptable that the NOP does not discuss any holistic Delta solution alternatives that include water use efficiency actions, groundwater recharge, local water supply projects and joint storage-conveyance.

The EIR must analyze and disclose the environmental impacts of joint storage-conveyance alternatives, enhanced through-Delta alternatives, operations based on the SWRCB’s Bay-Delta

² See <https://www.dcdca.org/pdf/2020-02-20DCABoardPkgV2.pdf>, ITR report, page 6.

Water Quality Control Plan update enhanced flow requirements (outflows and inflows as a percentage of unimpaired flow) as well as operations based on the most current voluntary agreement proposal and the new SWP Incidental Take Permit and Federal Biological Opinions.

The EIR must analyze a holistic Delta solution comprising of a portfolio of actions.

DWR's mission is:

To sustainably manage the water resources of California, in cooperation with other agencies, to benefit the state's people and protect, restore, and enhance the natural and human environments.

This includes improving the water resources supply for those within the Delta and in the upstream tributaries. It also includes improving the Delta ecosystem and water quality in the Delta for drinking water supply, irrigation, fish and wildlife and recreation. This is also State policy per California Water Code sections 85020 and 85054.

DWR is failing to fulfill its mission by using State resources to pursue a Delta conveyance-only solution that will only benefit water users in export regions south of the Delta. To achieve a sustainable solution to the multiple problems of the Delta, the State of California should be fully analyzing a holistic solution along the line of the *Portfolio-Based BDCP Conceptual Alternative*³ suggested in January 2013 by Barry Nelson (then of the Natural Resources Defense Council) and Governor Brown's 2014 California Water Action Plan⁴.

The EIR should focus instead on a portfolio of actions, fully developed, analyzed and disclosed, that consists of the following actions:

1. Develop and fund actions to enhance **water use efficiency** and **water reuse** throughout California
2. Develop and fund local **water supply projects** throughout California, including desalination projects
3. Develop and fund **groundwater recharge projects**, especially in areas with serious groundwater overdraft and subsidence. These could involve flood storage systems to enhance recharge from storm flows, as well as recharge using exported water (as was promised with the original State Water Project)

³ <https://www.nrdc.org/resources/portfolio-based-conceptual-alternative-bay-delta>

⁴ 2014 California Water Action Plan
https://resources.ca.gov/CNRALegacyFiles/docs/california_water_action_plan/2014_California_Water_Action_Plan.pdf

4. **Strengthen levees** in the Delta and upstream tributaries. This is needed anyway to protect the large proportion of export water still conveyed through the Delta to the south Delta export pumps
5. Implement **ecosystem habitat restoration projects** such as those being carried out under the auspices of California EcoRestore. The BDCP analyses shows significant adverse water quality impacts due in large part to the proposed habitat restoration actions. Any such ecosystem projects are part of the whole Delta solution and must be part of the current Delta conveyance project and disclosed in the new EIR. Otherwise the EIR will be inadequate under CEQA because would **piecemeal** the full project (*See* 14 C.C.R. §15378(a) (defining “project” for CEQA purposes as “the whole of the action”); *see generally Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376.)
6. **Increase minimum inflow and outflow requirements** in the Delta, consistent with the recommendations of the SWRCB (2010 “*Delta Flow Criteria Report*”⁵), the Cal. Department of Fish and Wildlife⁶ (2010 “*Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta.*”⁷) This is currently being carried out by the SWRCB as part of their update of the Bay-Delta Water Quality Control Plan. It is important to first determine how much water needs to remain as flow through the Delta to the Bay to restore and sustain the key fish species and the Delta ecosystem. This was a requirement of the 2009 Delta Reform Act (Cal. Water Plan §85320(b)(2)(A).) Designing a project in advance of knowing the conditions under which it may reliably operate makes no sense and is a huge waste of resources and renders the CEQA review meaningless. Only after the baseline flow needs for the Delta ecosystem are known will it be possible to determine the best combination and size of storage and conveyance facilities to optimize water supply reliability for California. Note that the WaterFix project, a conveyance-only proposal, was incompatible with the need to capture more water during high flow months and reduce exports during dry months when more water is needed for the Delta ecosystem.
7. Capture water when there is high flow in the Delta and its upstream tributaries in excess of the needs of the Delta ecosystem. This will require **additional storage in or close to the Delta and in the south of Delta export areas**. Additional north of Delta storage may provide some benefits but will not directly address the current need to capture and deliver more “new” water south of the Delta.
8. Exporting and storing more captured water in wet periods will **reduce the pressure on the SWP and CVP to rely on the Delta for exports in drier periods**. This would represent a

⁵ 2010 Delta Flow Criteria Report
https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/final_rpt.shtml

⁶ Previously called Department of Fish and Game (DFG)

⁷ 2010 DFG Quantifiable Biological Objectives and Flow Criteria Report
<http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentVersionID=43063>

win-win-win solution (actual benefits to water supply, the ecosystem and Delta water quality) compared to the current lose-lose-lose situation where “balancing beneficial uses” means continued heavy export pumping is drier months to the detriment of the Delta ecosystem and Delta water quality.

This approach will directly address the requirement for Bay-Delta projects to contribute to achievement of the co-equal goals (Water Code §85020, §85304, Public Resources Code §29702(a)). A conveyance-only proposal with none of the above associated portfolio actions will fail to make any meaningful contribution to either of the coequal goals and would be unable to protect and enhance the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place.

If increases in exports are focused on periods of high Delta outflow, water quality may often be good enough in the western Delta to meet export needs. The EIR should also include an alternative that includes **new intakes in the western Delta** in the vicinity of Sherman Island. That would reduce the number of intakes needed in the north Delta and reduce the size of the tunnel from the north Delta. Taking some water from the western Delta and less from the north Delta would maintain much needed flow through the Delta for the out-migration and return of anadromous fish species. This western Delta alternative, like DWR’s proposed Delta conveyance(-only) alternative allows up to 10,300 cfs to be exported at the SWP Banks Pumping Plant and 4,600 cfs at the CVP Jones Pumping Plant (total of 14,900 cfs).

The EIR should also include an alternative with additional upstream-of-the-Delta-pumps storage. That would allow water to be captured during high outflows at a rate higher than 14,900 cfs. Water captured in excess of 14,900 cfs could be stored, temporarily, immediately upstream of the Delta pumps and moved south of the Delta later when Banks and Jones pumping plant capacity becomes available.

For more information on the western Delta intake alternative please read Dr. Robert Pyke’s December 2012 white paper: “A Self-Regulating, Inclusive and Sustainable Solution for the Sacramento San Joaquin Delta.”

<http://nebula.wsimg.com/3c6d6f90274da0db82d946bcf7831fc3>

Tom Zuckerman in July 2007 discussed in detail the need for additional storage south of the Delta to increase the CVP and SWP’s ability to carry over more exported water into subsequent years during dry periods. <http://nebula.wsimg.com/595e6fbcbe2738977a5973a0e478cbb1>

The NOP at the top of page 9 states: “*As described above, the proposed project has been informed by past efforts taken within the Delta and the watersheds of the Sacramento and San Joaquin Rivers, including those undertaken through the Bay Delta Conservation Plan (BDCP)/California WaterFix.*” This is clearly incorrect. DWR has apparently learnt nothing from its narrowly focused studies of the past about the need for additional south-of-the-Delta storage and completely different operations to ensure a true “Big Gulp, Little Sip” solution.

To paraphrase George Santayana: Those who do not learn from the mistakes of the past are condemned to repeat them.

The EIR must analyze in detail joint storage-conveyance alternatives, with and without new intakes in the western Delta, to make the “Big Gulp” concept a reality, and with a portfolio of other actions to reduce the SWP and CVP’s reliance on exports from the Delta in dry months.

The EIR must extend the previous modeling period for reservoir and Delta operations and Bay & Delta water quality

The EIR must model both the operations and water quality, with and without the project alternatives, for the full historical hydrologic period, water years 1922-2019. The operations modeling performed for the BDCP and WaterFix proposals was for the 82 years from October 1921 through September 2003. This simulation period must be updated to include the subsequent 16 years of historical hydrology. The water quality simulations for WaterFix only used a 16-year period (water years 1976-1991). As discussed elsewhere in this letter, this brief 16-year period is not representative of the range of adverse water quality impacts for the longer 82-year period. The new single-tunnel EIR must simulate water quality over the full available historical hydrology period October 1921 through September 2019.

CalSim operations modeling for the EIR must meet SWRCB urban water quality standards

The salinity-outflow calculations for previous CalSim modeling for BDCP and WaterFix was based on an Artificial Neural Network (ANN) model that underestimated the amount of Delta outflow needed to meet the SWRCB’s municipal and industrial chloride concentration objectives at Contra Costa Water District’s intake at the entrance to the Contra Costa Canal off Rock Slough. When the effects of the project on Delta water quality were simulated using DWR’s DSM2 model, the estimated chloride concentrations at Pumping Plant #1 and in Old River at the entrance to Rock Slough were frequently well in excess of 250 mg/L chloride concentration in violation of the SWRCB’s daily January-December, standard. This means that the proposed project operations did not meet SWRCB standards, obscured the potential water quality impacts of the project, and overestimated the amount of water available for export.

As discussed in Contra Costa County and Solano County’s joint written testimony in the WaterFix water rights change petition hearing [WaterFix Hearing Exhibit CCC-SC-51], the simulated daily salinities in Old River at Bacon Island at the entrance to Rock Slough regularly exceeded the SWRCB year round daily standard of 250 mg/L chloride (equivalent to 1,053 $\mu\text{S}/\text{cm EC}$) and during one seawater intrusion event reached the equivalent of 761 mg/L chloride concentration (Figure 1).

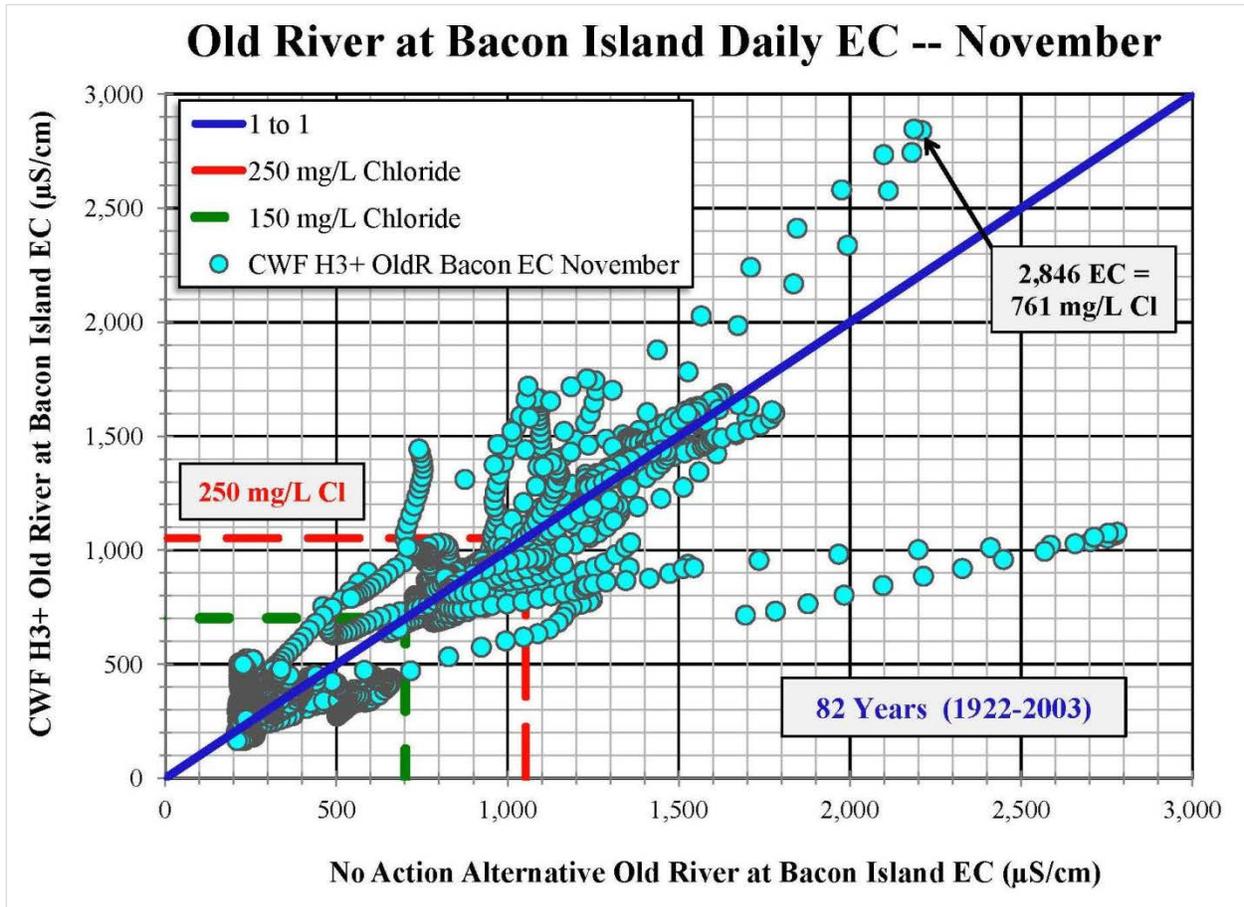


Figure 1: Daily-averaged Old River at Bacon Island EC for November for the proposed WaterFix project CWF H3+ plotted as a function of the No Action Alternative (NAA). The data are from the full 82-year CALSIM II modeling period, October 1, 1921 through September 30, 2003. Because this location is close to a D-1641 Municipal and Industrial water quality compliance location (the intake to the Contra Costa Canal), equivalent chloride concentrations of 250 mg/L and 150 mg/L are also shown. For many days in November, the chloride concentrations for both CWF H3+ and the NAA are well in excess of the 250 mg/L year-round maximum. [from SWRCB WaterFix Hearing Exhibit CCC-SC-60]

A recent technical paper by Nimal Jayasundara, Sanjaya Seneviratne, Erik Reyes and Francis Chung (all DWR) titled “Artificial Neural Network for Sacramento–San Joaquin Delta Flow–Salinity Relationship for CalSim 3.0,” showed the poor agreement between simulated CalSim and DSM2 salinity at Rock Slough and Jersey Point in previous CalSim modeling.⁸ They

⁸ American Society of Civil Engineers Journal of Water Resources Planning and Management, Vol. 146, Issue 4 (April 2020), <https://ascelibrary.org/doi/abs/10.1061/%28ASCE%29WR.1943-5452.0001192>

described the results of a new ANN salinity-outflow model that much more accurately reproduces the DSM2 model simulations.

The EIR analyses must use a salinity-outflow model that is able to accurately simulate the amount of Delta outflow needed to meet existing SWRCB water quality standards.

Analysis of the water quality impacts of the proposed project in the EIR must use the full available historical period, 1922-2019

The water quality impact analyses for the WaterFix project focused on a short 16 year period, 1976-1991, rather than the 82-year period, 1922-2003, used for the CalSim operations studies. As shown in WaterFix Hearing Exhibit CCC-SC-28 (reproduced below as Figure 2), the 16-year period gave very different results than the 82-year period.

In March, the 82-year average suggests the WaterFix project would have degraded water quality (expressed as EC) by 97 $\mu\text{S}/\text{cm}$, which is 3.5 times larger than the 16-year average (28 $\mu\text{S}/\text{cm}$). Similarly, in November, the average improvement in water quality for the full 82 years (-160 $\mu\text{S}/\text{cm}$) is appreciably less than the 16-year average (-210 $\mu\text{S}/\text{cm}$). In other words, using a 16-year average underestimated the adverse impacts on water quality of the WaterFix project and exaggerated the improvements.

Note that the Old River at Bacon Island location is representative of the water quality influencing the chloride concentrations at the SWRCB's D-1641 municipal and industrial compliance location at the intake to the Contra Costa Canal.

Because the current year is now 2020, both the operations and water quality simulations for the EIR should be for the full available historical hydrology period 1922-2019.

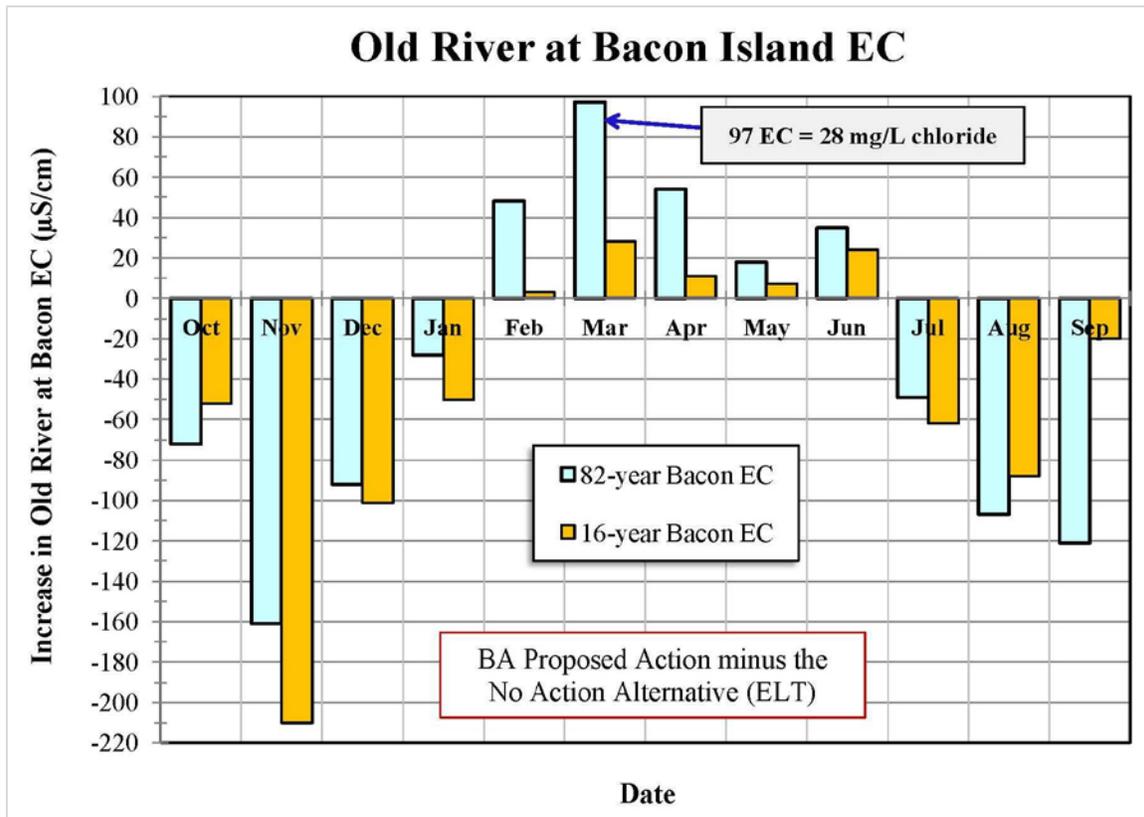


Figure 2: Increases in specific conductance (EC) in Old River at Bacon Island for water years 1922-2003 and 1976-1991 (82-years and 16-years, respectively). The water quality data are from the WaterFix Biological Assessment (BA) Proposed Action (PA) and No Action Alternative (NAA) at Early Long Term (ELT). Using only a 16-year average underestimates the adverse impacts in February-June and overestimates the simulated benefits in November-January. [from WaterFix Exhibit CCC-SC-28]

The presentation of modeling data and disclosure of environmental impacts in the EIR must be in a form that is usable and useful for decision makers and the public

The long-term (16- and 82-year) averages previously used by DWR to present the WaterFix modeling data masked potentially serious adverse impacts in individual months within the full 1922-2003 period. These long-term averages also hide the fact that the water quality modeling studies for the WaterFix project exceed the SWRCB’s D-1641 water quality standards by a very large margin (See, Figure 1 above). The long-term averaging for each month of the year also means there are only 12 data points for each alternative. Long-term averaging by water year type means the range of future flows and water quality changes for a given alternative are reduced to being represented by only five data points (one each for critical, dry, below normal, above normal and wet water year types).

To clearly disclose the full range of environmental impacts and the details regarding the timing and magnitude of these impacts, the simulation data for the EIR should also be presented in the form of scatter plots like Figure 1.

A major flaw of the earlier proposed WaterFix project, and presumably, the barely-modified new single tunnel proposal, was that a conveyance-only alternative will be unable to capture and export sufficient “new” water during wet months to allow exports to be reduced and Delta flows increased during dry months when the Delta ecosystem is most vulnerable.

The EIR should include plots of monthly (preferably daily) total south-of-Delta exports via Banks and Jones pumping plants as a function of the corresponding Delta outflow for each alternative. Without a Delta tunnel and additional north or western Delta intakes, the maximum export capacity is typically $4,600 + 6,680 = 11,280$ cfs. The new single-tunnel proposal would allow Banks Pumping Plant to operate up to $10,300$ cfs, beyond the current limits imposed by an Army Corps of Engineers permit for Clifton Court Forebay.

With the single-tunnel project, it would be possible to export at $4,600 + 10,300 = 14,900$ cfs even during drier months. However, State policy (California Water Code §85021⁹) requires that Bay-Delta projects reduce reliance on the Delta in meeting water supply needs and this is most important during dry months when Delta outflows are low and the Delta ecosystem is most vulnerable. Any project that increases rather than decreases exports during periods of low Delta outflow is not consistent with this State policy, the 2009 Delta Reform Act and, like the WaterFix proposal, would be inconsistent with the Delta Plan.

Figure 3 below shows WaterFix monthly exports as a function of Delta outflow during lower outflow months (outflow < 12,000 cfs). The now-withdrawn WaterFix project would have increased exports beyond the typical 11,280 cfs existing level up to 14,900 cfs (more than a 30% increase). The EIR must analyze and disclose alternatives, such as a joint storage-conveyance alternative, that reduce reliance (exports) from the Delta during dry periods.

Figure 3 also shows a reasonable limit on exports as a function of Delta outflow, maximum export ≤ 1.5 times Delta outflow, which would help ensure operations do indeed reduce reliability on the Delta and are consistent with the “Little Sip” concept. The EIR should include alternatives using this important restraint on exports at very low Delta outflow.

⁹ 85021. The policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts.

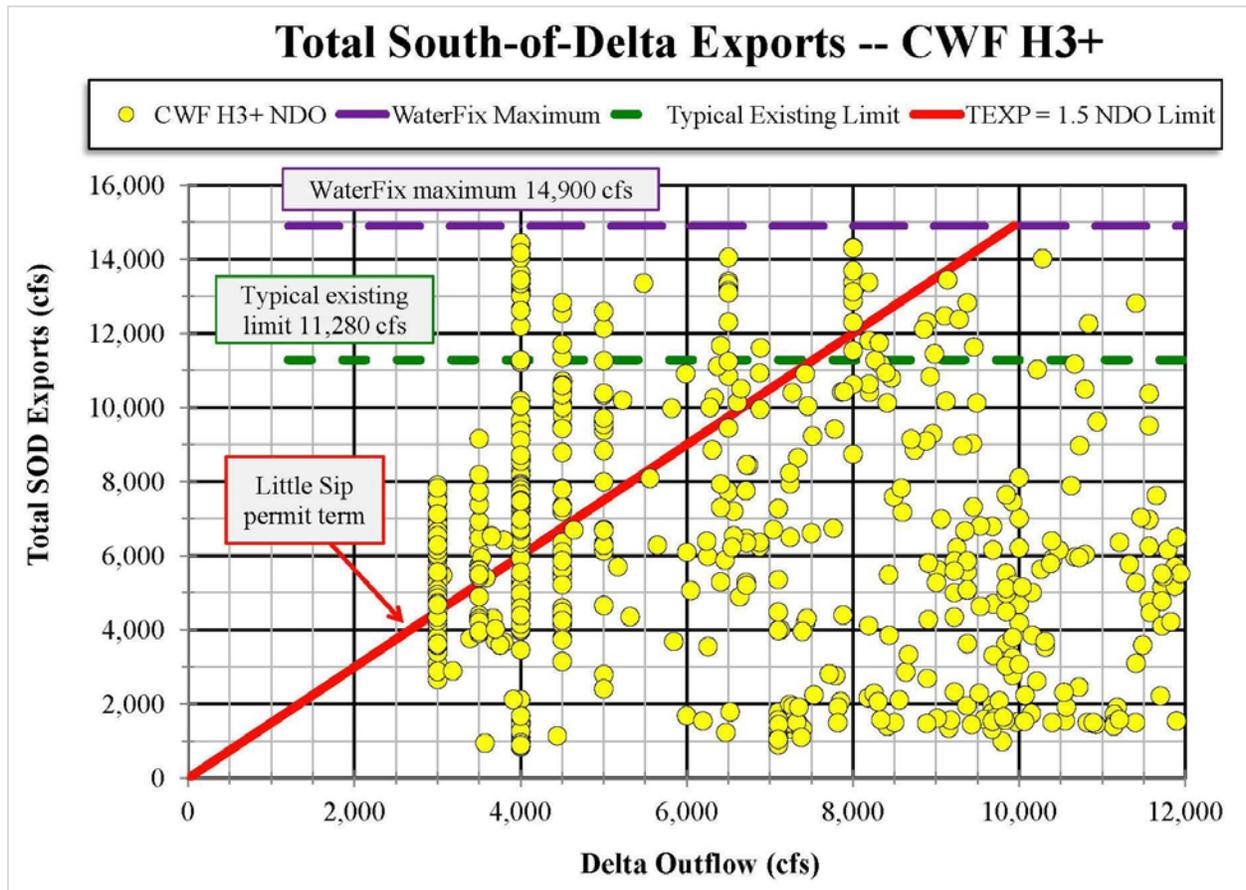


Figure 3: Monthly-averaged total South-of-Delta exports for the previously proposed WaterFix project CWF H3+ as a function of the corresponding Delta outflow. The data represent the modeling period, October 1, 1921 through September 30, 2003. Only data for outflows less than 12,000 cfs are plotted to highlight the proposed WaterFix operations during drier months. The WaterFix project increases exports beyond existing levels when Delta outflows are very low and the Delta ecosystem is most vulnerable. This is the exact opposite of the “Little Sip” concept. The suggested 1.5 times Delta outflow limit would help ensure operations consistent with the “Little Sip” concept. [from WaterFix Hearing Exhibit CCC-SC-63]

The Delta Independent Science Board, in a September 30, 2015 comment letter to the Chair of the Delta Stewardship Council and Director of the California Department of Fish and Wildlife, described the partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement for the Bay Delta Conservation Plan/California WaterFix as “*sufficiently incomplete and opaque to deter its evaluation and use by decision makers, resource managers, scientists and the broader public.*” [WaterFix Hearing Exhibit CCC-SC-20, p. 1.]

The proposed single-tunnel EIR must present the modeling data in forms such as scatter plots of daily water quality and monthly (preferably daily) flow and export data to make the EIR usable

and useful for decision makers, resource managers, Bay-Delta stakeholders, and the general public. Merely summarizing the data as long-term (16- or 82-year) averages is not acceptable.

The EIR must fully mitigate any significant water quality impacts of the proposed project

The original BDCP project had significant adverse water quality impacts that DWR declared were “unavoidable.” The next version of the Delta conveyance project, WaterFix, also had significant water quality impacts (see Figure 1 above) but the primary mitigation proposal was to meet and confer with impacted water rights holders after the project had been constructed and brought on line. DWR did, however, recognize that this was not a defensible position so, in March 2016 entered into a water rights settlement agreement with the Contra Costa Water District (WaterFix Hearing Exhibit DWR-334). Under this settlement agreement, DWR would provide high quality water to CCWD via EBMUD’s Freeport project or by a direct connection to the tunnel(s) to offset the water quality impacts of the WaterFix project.

The EIR must use the water quality significance criteria of 5 mg/l chloride or 5% increase, whichever is greater. In the case of specific conductance (EC) the corresponding criterion should be 20 μ S/cm. These significance criteria were developed as significance screening criteria by CCWD for the September 1993 *Los Vaqueros Project Final EIR/EIS* (SCH #91063072, Volume 1, page 5-9). These significance criteria were also used by East Bay Municipal Utility District (EBMUD) for the July 2003 *Freeport Regional Water Project EIR/EIS* (see *Draft EIR/EIS Modeling Technical Appendix*, page 4-228).

In the December 2019 Lookout Slough Tidal Habitat Restoration and Flood Improvement Project Draft EIR, DWR argued that whether a change is considered "significant" depends on whether there would be an exceedance of a standard set forth in the State Water Resources Control Board's (SWRCB's) Bay-Delta Water Quality Control Plan (Bay-Delta Plan) and/or Water Rights Decision 1641 (D-1641). This is incorrect. According to CEQA Appendix G, Environmental Checklist Form, under VIII. Hydrology and Water Quality, term (f), water quality impacts must be deemed significant if they "otherwise substantially degrade water quality." This term recognizes there can still be significant adverse water quality impacts when water quality is well below any regulatory standard such as those in the SWRCB's D-1641.

The single-tunnel EIR must include graphs showing the daily percentage increases in chloride concentration or EC as a function of time to fully disclose to decision makers and the public whether significant water quality degradation would occur.

Notwithstanding a lead agencies requirements under CEQA to fully mitigate the significant environmental impacts of a proposed project, the 2009 Delta Reform Act (Water Code §85021¹⁰) found that improving water quality to protect human health and the environment in the Delta is inherent in the State policy of achieving the coequal goals for management of the Delta. Logically, any degradation of water quality would be inconsistent with the 2009 Delta Reform Act and the Delta Plan.

Significant water quality impacts can be avoided by selecting a joint storage-conveyance preferred alternative that is able to capture, export then store more water during wet months (Big Gulp) and increase Delta flows, reduce exports and decrease salinity and other water quality contaminants during dry months (Little Sip).

If significant water quality impacts are still identified, they must be clearly disclosed and fully mitigated in the EIR.

The EIR must fully model the infrastructure required to comply with the settlement agreement with the Contra Costa Water District

In March 2016, DWR entered into a water rights settlement agreement with the Contra Costa Water District [WaterFix Hearing Exhibit DWR-334]. Under this settlement agreement, DWR agreed to provide high quality water to CCWD via EBMUD's Freeport project or by a direct connection to the new Delta tunnel(s) to offset the water quality impacts of the WaterFix project on CCWD and the residents of Contra Costa County. DWR has recently entered into a new settlement agreement with the City of Antioch.

The EIR must include these settlement agreement infrastructure and mitigation operations as part of the proposed project operations, and fully disclose the corresponding water supply impacts on other water users.

The EIR must analyze alternatives that implement enhanced Delta outflows consistent with the SWRCB's 2010 Delta Flow Criteria Report

The SWRCB is currently in the process of updating the Bay-Delta Water Quality Control Plan (WQCP) and has proposed new enhanced Delta inflow (Sacramento and San Joaquin River) and outflow objectives to help restore and sustain key Delta fish species. These minimum flow objectives are based on a percentage of unimpaired flow during part of the winter and spring as well. The SWRCB also proposed Fall X2 objectives (September, October and some Novembers) to help restore the Delta ecosystem.

¹⁰ 85020. The policy of the State of California is to achieve the following objectives that the Legislature declares are inherent in the coequal goals for management of the Delta:

(e) **Improve water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta.**

The EIR must include, analyze and disclose the environmental impacts and benefits of alternatives that have enhanced Delta inflow and outflow objectives consistent with the SWRCB's recommendations and adopted objectives for the WQCP.

The WaterFix modeling and environmental review, for example, not only suggested that the now-withdrawn WaterFix proposed project would reduce the Sacramento River flow through the Delta (downstream of the proposed north Delta intakes) but would also, in many months, reduce the Sacramento inflow at Freeport (Figure 4). The months when Sacramento inflow is decreased include many during the SWRCB's January-June regulatory period (Figure 5). This is exactly the opposite of what was recommended in 2009 by the SWRCB. [WaterFix Hearing Exhibit CCC-SC-64]

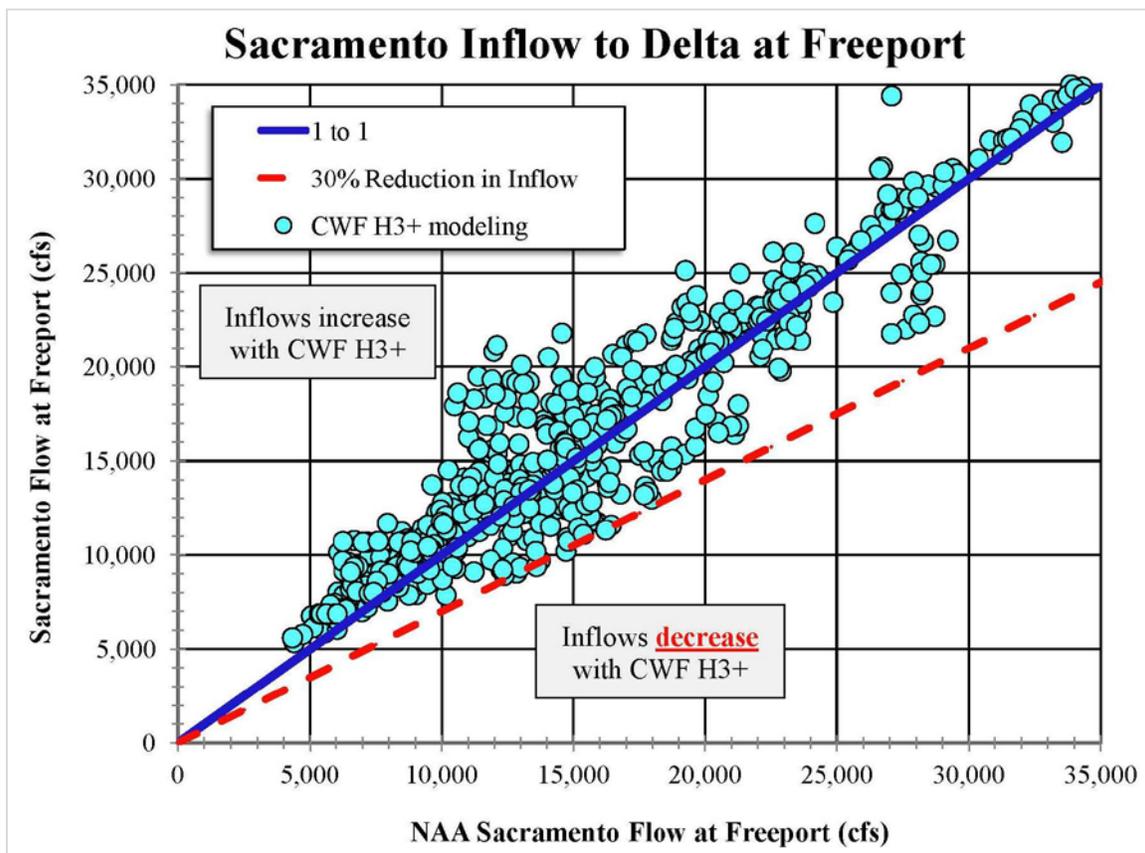


Figure 4: Monthly-averaged Sacramento River flows into the Delta at Freeport for the proposed WaterFix project CWF H3+ as a function of the corresponding No Action Alternative (NAA) flows. The data are for the period, October 1, 1921 through September 30, 2003. Only flows less than 35,000 cfs are plotted. The WaterFix project would reduce inflows to the Delta at Freeport by as much as 30% in some months. [from WaterFix Hearing Exhibit CCC-SC-64]

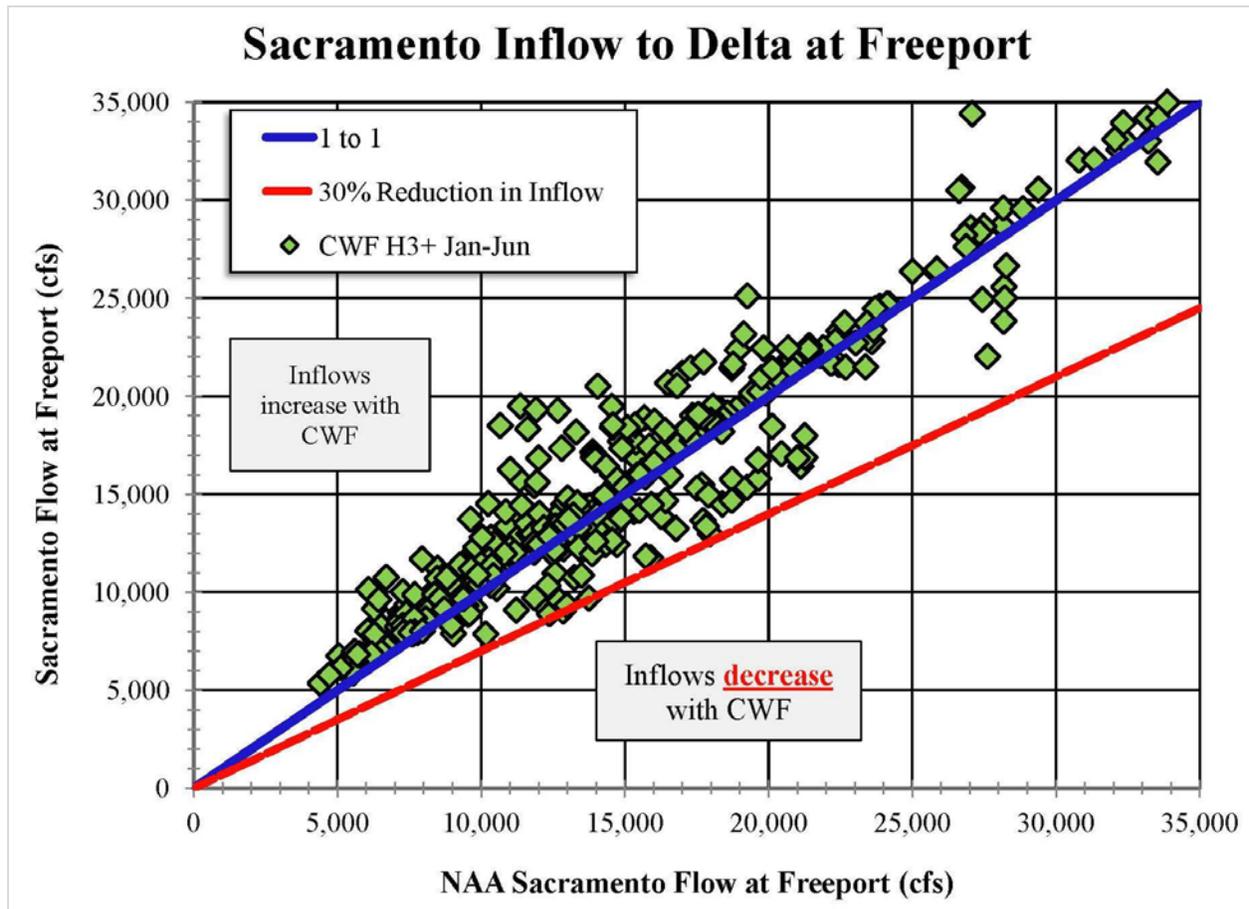


Figure 5: Monthly-averaged Sacramento River flows into the Delta at Freeport for the proposed WaterFix project CWF H3+ as a function of the corresponding No Action Alternative (NAA) flows. Monthly data for **January-June** for water years 1922-2003 and flows less than 35,000 cfs are plotted. The WaterFix project would reduce inflows to the Delta at Freeport during the key January-June period by as much as 30%.

For all alternatives, the EIR must present the Sacramento inflow at Freeport, San Joaquin at Vernalis flow and Delta outflow as a percentage of unimpaired flow so that the EIR is usable and useful for decision makers like the SWRCB, Bay-Delta stakeholders and the general public. If the EIR includes alternatives operated according to a WQCP voluntary agreement, for example, it is important to fully disclose whether those operations actually increase any of the key Delta flows and whether the corresponding percentages of unimpaired flow are consistent with the SWRCB’s original 2009 Delta Flow Criteria recommendations.

The EIR alternatives must include Fall X2 objectives

Figure 6 show the historical monthly-averaged X2 data for the month of October as a function of the Sacramento 40-30-30 water year index for the period 1955-2016 [Figure 3 from WaterFix

Hearing Exhibit CCC-SC-74]. The data are categorized into four historical periods: Pre-SWP (1956-1967); Pre-Bay-Delta Accord (1968-1994), Post Accord (1995-2008); Post 2008-2009 Biological Opinions (2009-2017).

The historical October Fall X2 data after the Bay-Delta Accord is significantly different than the early trend in X2 as a function of water year index. X2 values after 1994 during above normal and wet years are much higher and are more consistent with Fall X2 values in drier historical years. This period also represents the time when there was a significant decline in pelagic organisms in the Delta.

Figure 6 also compares these data with the current Fall X2 limits of 74 km in wet years and 81 km in above normal years (USFWS 2008 Biological Opinion) [WaterFix Hearing Exhibit SWRCB-87] and SWRCB Delta Flow Criteria Report [WaterFix Hearing Exhibit SWRCB-25]. These Fall X2 limits are consistent with historical trends prior to 1994. Note that the SWRCB's Spring X2 standards were developed based on restoring Delta flow and salinity conditions to those that existed during the period 1968-1975 to protect and restore key fish species. The Fall X2 objectives have a similar effect of restoring 1968-1975 flow and salinity conditions in the Delta.

There have been recent efforts by export water contractors to argue away the need for Fall X2 limits or replace them with other operational requirements. The EIR should still fully analyze alternatives that comply with these Fall X2 objectives so that decision makers and the public can understand the benefits to key Bay-Delta fish species of restoring fall salinities back to pre-1994 conditions.

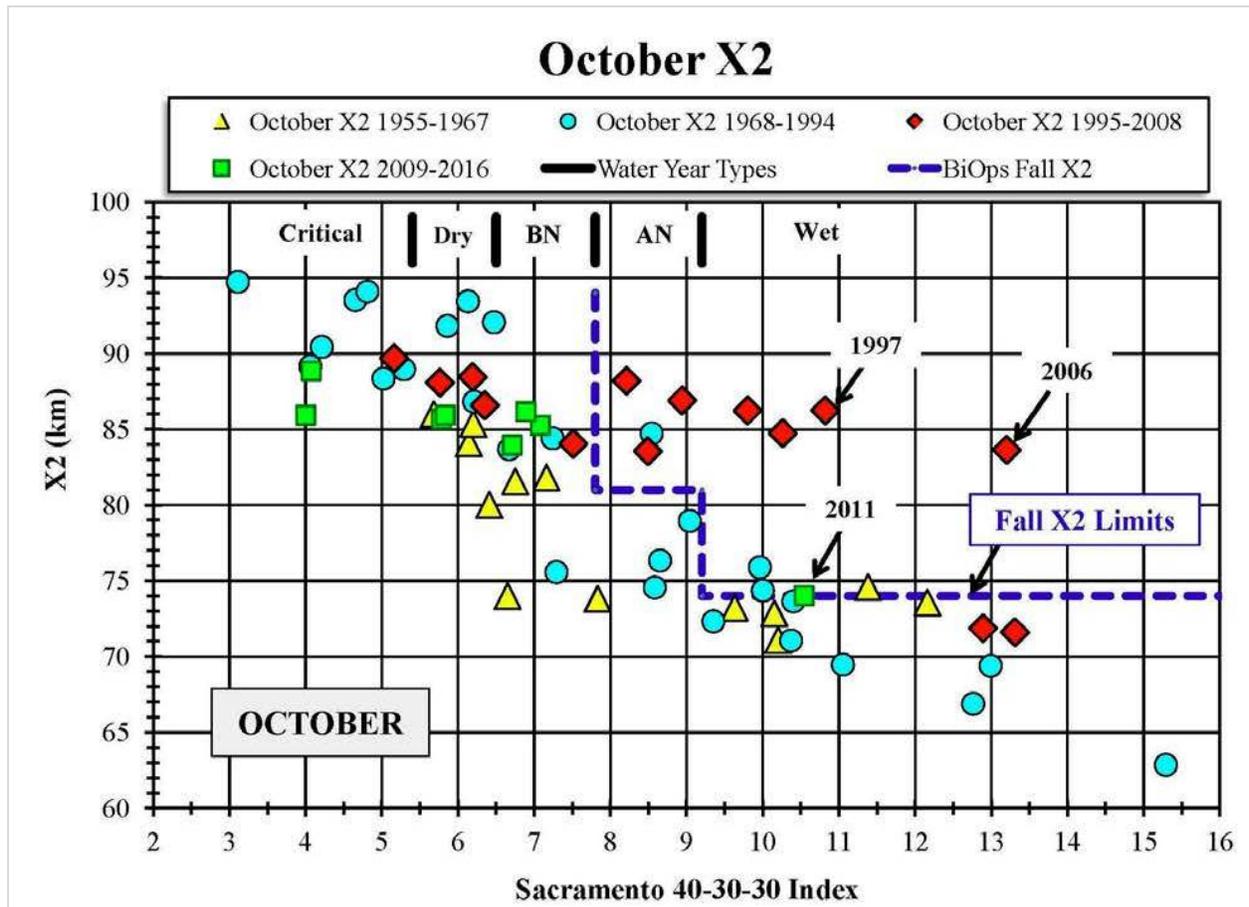


Figure 6: Historical monthly-averaged X2 for the month of October as a function of the Sacramento 40-30-30 water year index for the period 1955-2016. The data are categorized into four periods: Pre-SWP (1955-1967); Pre-Bay-Delta Accord (1968-1994), Post-Accord (1995-2008); and Post-2008-2009 Biological Opinions (2009-2016). The Fall X2 limits for wet and above normal years (74 km and 81 km, respectively) from the USFWS Biological Opinion is also shown. There were a number of years after 1994 when the October X2 was much higher than the previous historical trend.

The EIR should use a Daily Operations model

The modeling of reservoir operations, Delta flows and exports using CalSim have typically been carried out using a monthly time step. Because the SWRCB’s M&I water quality objectives and Spring X2 standards are daily objectives and other operational requirements are based on running averages of less than one month, the operations modeling for the proposed project should be performed using a daily timestep. This request has been made since the start of the BDCP and WaterFix processes allowing plenty of time to develop a daily timestep model.

The EIR should use a daily time step for both operations and water quality modeling for the full historical hydrology time period 1922-2019.

DWR should establish a technical workgroup to provide input to development of the EIR and make modeling data available to the public as early as possible

The BDCP process included a Steering Committee consisting of project proponents and key Bay-Delta stakeholders. There were also a number of technical committees that met and provided valuable input to DWR and Reclamation. This process of involving stakeholders in the planning of the project was unfortunately dropped just before the start of the WaterFix environmental review process which resulted in DWR losing its way.

DWR should establish, at a minimum, a technical steering committee to help guide the modeling process and selection and analysis of alternatives for the EIR.

During the Water Fix Change Petition hearing, DWR withheld the modeling for its CWF H3+ alternative until after the SWRCB deadline for other hearing parties to submit their water rights hearing exhibits. This meant that these exhibits were obsolete the moment they were submitted while DWR's were not. This conflicts with the need for transparency in the planning process and was a waste of the SWRCB and hearing participants' time. DWR should regularly make modeling data available in electronic form to the public during the planning process, and well in advance of any decisions that will be predicated on the modeling, especially when specifically requested by a stakeholder.

The EIR must include alternatives where the SWP export diversions to Clifton Court Forebay are fully screened

The proposed project must include state-of-the-art fish screens for the intake to the Clifton Court Forebay. Although the current diversions can be as high as 10,300 cfs as a daily average, and even higher when the intake gates are open for only half of the tidal cycle, there are feasible solutions for screening Clifton Court. One such design was presented in DWR's November 2009 Conceptual Engineering Report – Through-Delta Facility Conveyance Option. This detailed Conceptual Engineering Report recommends a new screened intake on Victoria Canal and a siphon to convey the diverted screened water into Clifton Court Forebay. [WaterFix Hearing Exhibit CCC-SC-31 which reproduced Figures 7-5 and 20-1 from the Conceptual Engineering Report.]

The proposed WaterFix project still relied on diversions from the south Delta into Clifton Court for approximately half of the total WaterFix south-of-Delta exports. The current single tunnel proposal will likely also rely on continued south Delta diversions for the SWP. A Delta project that fails to screen the largest diversion point in the Delta is not in the public interest. The EIR must analyze south Delta exports through fully screened intakes.

Other EIR Modeling Requests

1. The EIR must accurately model the conveyance of CVP water, if any, through any new Delta conveyance. The WaterFix CWF H3+ assumed approximately 40% of the water diverted at the north Delta intakes was CVP water even though the U.S. Bureau of Reclamation was no longer agreeing to participate in the project.
2. The EIR must simulate the actual proposed project operations. In the WaterFix modeling, a Rio Vista minimum flow requirement of 3,000 cfs was assumed for January-August to ensure modeling stability, but DWR did not intend to operate the project with that minimum flow constraint.
3. The EIR must include alternatives that operate to the existing SWRCB Bay-Delta standards, state and federal biological opinions and U.S. Army Corps of Engineers permits. At various times during the BDCP and WaterFix environmental review processes, DWR assumed the Emmaton D-1641 agricultural water quality standard compliance location would be relocated to Three Mile Slough, ignored the Army Corps limits on inflows to Clifton Court Forebay and ignored the biological opinion limit on the ratio of San Joaquin River inflow to south Delta exports. If such changes are going to be part of the future project operations, they must be clearly stated in the project description and then modeling studies should be performed with and without each of the individual changes so that decision makers and the public can fully understand the environmental impacts of such changes.
4. The EIR must simulate the operations of the proposed project with and without climate change. The EIR should not only simulate project operations at early long-term but also late long-term when the effects of climate change and sea level rise will be most significant. The original BDCP modeling looked at year 2025 and 2060, but the WaterFix simulations were only disclosed to the public for early long term (year 2025). The WaterFix construction period was considered to be about 17 years. The twin tunnels would not have been completed and on line by the year, DWR was using to represent the future operations of the project. For the BDCP, 2060 represented about 45 years in the future. The late long term for the new EIR should be for year $2020 + 45 = 2065$.
5. The EIR must analyze and disclose the effect of the new intakes on the flow through Sutter and Steamboat Sloughs and the corresponding effect on the passage of migrating anadromous fish, and smelt, through the Sacramento River and Delta Cross Channel system. Flow measurements in these sloughs by USGS suggest that reducing the flow in the Sacramento River below the proposed north Delta intakes could also reduce the percentage of outmigrating fish taking the safer route to the ocean via Sutter and Steamboat Sloughs. This could have a significant adverse impact on already threatened Bay-Delta fish species.

Secretary Wade Crowfoot
Scoping Comments on NOP of EIR for Delta Conveyance Project
April 17, 2020
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Thank you for considering my scoping comments. If you have any questions, please contact me at (510) 339-3618.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. A. Denton". The signature is fluid and cursive, with a horizontal line underneath the name.

Richard A. Denton

Attachment: Compilation of Cited WaterFix Hearing Exhibits

Cc: Karla Nemeth, DWR Director
E. Joaquin Esquivel, SWRCB Chair
Susan Tatayon, DSC Chair
Jared Blumenfeld, Cal EPA Secretary

Compilation of Joint Contra Costa County and Solano County exhibits in the WaterFix Change Petition Hearing plus DWR Exhibit 334

1. CCC-SC-20 Delta Independent Science Board to DSC 30Sep2015 RDEIR-SDEIS comments
2. CCC-SC-28 Difference Between 16-year and 82-year Analyses of Water Quality Impacts
3. CCC-SC-31 November 2009 Conceptual Engineering Report Design for Screened Intake to Clifton Court Forebay
4. CCC-SC-51 Written Rebuttal Testimony of Dr. Richard A. Denton
5. CCC-SC-60 Daily Old River at Bacon Island EC in November for CWF H3+
6. CCC-SC-63 Proposed WaterFix Project Increases Exports during Drier Periods
7. CCC-SC-64 Proposed WaterFix Project Reduces Sacramento Inflows at Freeport
8. CCC-SC-74 Historical Trends in Fall X2 from DAYFLOW
9. DWR-334 2016 CCWD Agreement