

# The Board of Supervisors

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# Contra Costa County



**David J. Twa**  
Clerk of the Board  
and  
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October 30, 2015

John Laird  
Secretary  
California Natural Resources Agency  
1416 Ninth Street, Suite 1311  
Sacramento, CA 95814

David Murillo  
Regional Director, Mid-Pacific Region  
U.S. Bureau of Reclamation  
Federal Office Building  
2800 Cottage Way  
Sacramento CA 95825-1898

BDCP/WaterFix Comments  
P.O. Box 1919  
Sacramento, CA 95812  
Email: [BDCPComments@icfi.com](mailto:BDCPComments@icfi.com)

## **Re: Proposed Changes to the Bay Delta Conservation Plan/California WaterFix Continue to Threaten the Delta, Time for Plan "B"**

Dear Secretary Laird and Director Murillo:

Attached to this letter are Contra Costa County's comments on the Draft Bay Delta Conservation Plan ("BDCP")/California WaterFix ("CWF") and associated partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement ("RDEIR/SDEIS"). As further explained in this letter and its attachments, the RDEIR/SDEIS fails to consider a reasonable range of viable project alternatives, fails to model and disclose the full adverse environmental impacts of the project, and assumes away what were previously considered significant adverse, but unavoidable, water quality impacts of the project without any actual detailed water quality modeling being done. The RDEIR/SDEIS is therefore totally inadequate under CEQA and NEPA, and not responsive to state policies (2009 Delta Reform Act), and should be withdrawn.

A great deal of information is circulating on the release of the BDCP/CWF and its recirculated environmental documents. The California WaterFix has been portrayed positively and unduly optimistically by the project proponents, but there are a host of major problems with the project. We request your personal review of the issues with the proposed project and urgent consideration of an alternative approach outlined herein.

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The current proposal by the California Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (Reclamation) to build new intakes in the north of the Sacramento-San Joaquin Delta (Delta) and export a significant percentage of Delta inflow will be a disaster for the Delta ecosystem, threatened and endangered fish species, the already degraded Delta water quality, and those living in or near the Delta that rely on the Delta for their water supply. The availability of good quality water in the Delta is essential for municipal drinking water for the residents of Contra Costa County as well as agriculture, recreation, and industry in this region.

Contra Costa County asks you both to undertake a serious review and reconsideration of this deeply flawed RDEIR/SDEIS and work with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) fisheries to develop a new approach (including the ability to capture and store “new” water during periods of high flow) that will actually restore and sustain the Delta ecosystem and address California’s water supply needs. This would greatly benefit not only California, but also the nation. The time to consider a Plan “B” is long overdue.

Despite what is stated by the project proponents in their press releases, the current project as proposed by DWR and, apparently, as supported by Reclamation, continues to have serious flaws and will harm, rather than improve the Delta ecosystem. Equally serious, it fails to produce any real increase in water supply reliability for California – something that is even more important in view of our current drought emergency.

The following are examples of the major problems with the current BDCP/CWF proposal:

- The preferred alternative in the current RDEIR/SDEIS fails to achieve either of the two co-equal goals of “providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem.” (See Wat. Code, §§ 85054; 85301(a).) This renders the RDEIR/SDEIS noncompliant with the requirements of the state Sacramento-San Joaquin Delta Reform Act of 2009 (Wat. Code, §§ 85000-85350) and Division B, Title 2, Section 205 of the federal Consolidated Appropriations Act of 2012 (Pub. L. 112-74 (Dec. 23, 2011) 125 Stat. 786).
- The DWR and the California Natural Resource Agency (CNRA) and Reclamation have allowed the export water contractors to develop a flawed project and valuable input from Delta interests and environmental organizations and even other State Agencies (e.g. Delta Stewardship Council Independent Science Board) have gone unanswered. The Delta Independent Science Board’s September 30, 2015 letter indicates in no uncertain terms that the BDCP/CWF is “*sufficiently incomplete and opaque to deter its evaluation and use by decision makers, resource managers, scientists and the broader public.*”
- DWR, CNRA, Reclamation and Interior have failed to consider or analyze a reasonable range of alternatives. Fourteen (14) of the 15 alternatives in the draft RDEIR/SDEIS involve an isolated facility and north Delta intakes, with no new storage or actions to reduce demand on the Delta and increase local sources of water. The three new alternatives in the RDEIR/SDEIS have the same basic configuration as those 14, meaning 17 out of 18 project alternatives are essentially the same project alternative. These project alternatives do not foster informed decision-making, and do not permit a reasoned choice.

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- The current RDEIR/SDEIS preferred alternative still relies on exports from the existing south Delta export locations (especially in dry years when the Delta is most stressed) and often would result in worse reverse flows in Old and Middle Rivers. The new North Delta intakes also adversely impact listed fish species (*i.e.*, species listed as threatened and endangered under the state and federal Endangered Species Acts) by reducing flows through the Delta to San Francisco Bay, reducing the percentage of flow through Sutter and Steamboat Sloughs, and increasing predation. Therefore, the project’s net benefits to listed fish species are minimal, if any.
- Astonishingly, the RDEIR/SDEIS’s preferred alternative would increase exports in dry periods and would only infrequently capture additional surplus water in wet periods. This is completely contrary to the original BDCP planning principles and the “Big Gulp, Little Sip” concept touted in the BDCP “An Overview and Update” dated March 2009. Specifically, principle #2 states “Divert more water in the wetter periods and less in the drier periods.” Moreover, the preferred alternative is in direct conflict with State policies of reducing reliance on the Delta in meeting California’s future water supply needs. (See Wat. Code, §§ 10608(c) & 85021.)
- The Operations and Water Quality modeling for the November, 2013 BDCP Draft EIR/EIS contained major errors and the computer models needed to be revised. However, no new modeling was done for the new RDEIR/SDEIS project or project alternatives. Instead DWR and Reclamation have based their RDEIR/SDEIS analyses on the original flawed modeling studies from three and a half years ago, and on water quality sensitivity analyses performed for completely different future demand, climate change scenarios, and habitat restoration conditions, *i.e.*, late-long-term rather than early-long-term.
- The estimated \$15 billion cost for construction of the tunnels does not represent the total cost of the whole project, estimated upwards of \$50 billion, and would most likely be rendered obsolete once the State Water Resources Control Board (SWRCB) adopts long-overdue, more-stringent, Delta flow requirements to protect fish and other beneficial uses.

These major issues are discussed in more detail in the attachments to this letter.

### **Time for a Fresh Approach - Plan “B”**

The Bay Delta Conservation Plan/California WaterFix proponents have done very little to develop a holistic and sustainable solution. The Delta is in serious decline and there are major water shortages in California, even in non-drought years. Fish populations are plummeting. DWR and Reclamation should fully embrace the responsibility and complexity of solving the problems of fish decline, degraded Delta water quality, the increasing demands for water in California, and the impacts of climate change.

It is unfortunate that due to state and federal budget constraints, this responsibility has been ceded to a special interest group, the export water contractors, who do not have the interests of the environment or the rest of California at heart. Because of the control exerted by the export contractors over the BDCP planning budget, the BDCP/CWF RDEIR/SDEIS was rushed into

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print without any new modeling, and no new viable project alternatives. This seriously flawed document is not worthy of DWR or Reclamation, and has further delayed addressing the urgent needs of the Delta and California’s water supply.

A sustainable solution to California’s Bay-Delta fish and water supply problems can be achieved using the following approach. These are not new ideas. They have been provided by numerous Bay-Delta stakeholders to DWR and Reclamation as part of the BDCP process, and they were addressed in large part in the January 2014 California Water Action Plan. They have mainly been ignored or prematurely rejected by the single-focused BDCP/CWF proponents.

1. Capture water when there is high flow in the Delta and its upstream tributaries. This will require additional storage in or close to the Delta and south of the Delta. Additional storage located north of the Delta is needed, but it will not address the current problems of increasing water availability south of the Delta.
2. Storing captured water in wet periods will reduce the pressure to rely on the Delta for exports in drier periods. This will reduce resistance to adoption by the SWRCB and fishery agencies of necessary increased protections for fish in drier periods in the form of increased flows, and more stringent reverse flow limits and export restrictions. Only after the flows needed to sustain fish species are established will it be possible to determine how much water is available for export by the BDCP/CWF proponents.
3. If increases in Delta exports are focused on periods of high Delta outflow, water quality will be good enough in the western Delta to meet export needs. DWR and Reclamation should analyze alternatives involving new intakes in the western Delta in the vicinity of Sherman Island. Such an alternative would maintain flows for the fish through the Delta and eliminate the problems of reverse flows caused by both the south and north Delta intakes. During high flow periods, key pelagic fish species will be located west of Sherman Island. This alternative will also eliminate the need to construct lengthy expensive tunnels all the way under the Delta.
4. Increasing flows in the Delta during drier months will also help restore and maintain good water quality in the interior Delta.
5. Exports from the south Delta could still continue but only under “safe” conditions for fish. Reverse flows in Old and Middle Rivers would need to be highly constrained, *e.g.*, Old and Middle River flows that are never less than, say, -2,000 cfs, as a monthly average, in all months.
6. Implement a portfolio of other actions to reduce demand on the Delta, strengthen Delta levees, address other fish stressors, and restore habitat in the Delta and in its upstream tributaries.

If done right, this approach will result in a win-win-win solution that achieves both coequal goals and the inherent goals of improving water quality in the Delta and protecting the Delta as an evolving place (see Wat. Code, § 85020). The current Bay Delta Conservation Plan/California WaterFix maintains the existing “lose-lose” situation that pits water users against the environment and forces the SWRCB to balance rather than enhance beneficial uses. Indeed, it is

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telling that despite the court decisions upholding the Fall X2 limits, the export contractors still included an analysis of the proposed project without Fall X2 in the RDEIR/SDEIS (Appendix F).

It is unfortunate not to mention tragic for Delta smelt and other declining fish populations that after the expenditure of more than \$250 million on planning studies, and after tying up the staff resources of state and federal agencies and interested stakeholders for more than nine years, the BDCP/CWF proponents have failed to produce a viable or legally-permissible solution to the water and ecosystem problems facing California, and have failed to produce a legally adequate environmental document.

Once again, Contra Costa County respectfully asks that you both take a hard look at the current flawed BDCP/CWF process (and the legally inadequate RDEIR/SDEIS).

As discussed earlier, what is needed is an inclusive process – one that involves local agencies and other Bay-Delta stakeholders –to seriously consider new project alternatives that will actually solve rather than exacerbate the problems of the Delta, and that will sustain a healthy Delta ecosystem and a reliable water supply.

If you have any questions regarding Contra Costa County's comments, please contact me at (510) 231-8686 or Ryan Hernandez at (925) 674-7824.

Sincerely,



John Gioia, Chair  
Contra Costa County Board of Supervisors

**Attachments**

- A – Summary of CEQA/NEPA Comments
- B – Detailed Comments on BDCP/CWF RDEIR/SDEIS
- C – Detailed Analysis Of WaterFix Project Impacts based on Water Fix Modeling and Sensitivity Analysis Data
- D – Recent Contra Costa County correspondence regarding BDCP and WaterFix

Cc: Governor Jerry Brown  
U.S. Secretary of Commerce, Jenny Pritzker  
U.S. Secretary of Interior, Sally Jewell  
U.S. Deputy Secretary of Interior, Michael Connor  
Senator Diane Feinstein  
Senator Barbara Boxer  
Congressman Mark DeSaulnier  
Congressman Mike Thompson  
Congressman Eric Swalwell

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Congressman John Garamendi

Congressman Jerry McNerney

Congressman Jared Huffman

Congresswoman Nancy Pelosi

Christy Goldfuss, Managing Director, Council on Environmental Quality

Will Stelle, Regional Administrator, NOAA Fisheries, West Coast Regional Office

Ren Lohofener, Regional Director, USFWS, Pacific Southwest Region

Jared Blumenfeld, Region 9 Administrator, U.S. Environmental Protection Agency

Brigadier General Mark Toy, South Pacific Region, U.S. Army Corps of Engineers

Charlton H. Bonham, Director, California Department of Fish and Wildlife

Mark W. Cowin, Director, California Department of Water Resources

Felicia Marcus, Chair, State Water Resources Control Board

Contra Costa County Board of Supervisors

## Summary of Contra Costa County's CEQA/NEPA Comments

The following is a summary of Contra Costa County's comments regarding the California WaterFix (CWF) Partially Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). Contra Costa County hereby incorporates by reference all of its previously-submitted comments on the BDCP EIR/EIS, and reiterates those comments to the extent that they apply to the RDEIR/SDEIS. Unless noted otherwise, comments in the July 2014 summary remain relevant to review of the RDEIR/SDEIS.

Contra Costa County provided extensive and constructive comments on the November 2013 Bay Delta Conservation Plan (BDCP) Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) but the County's comments do not appear to have been thoughtfully considered. None of the County's constructive suggestions were incorporated into the RDEIR/SDEIS. This new environmental document perpetuates the flawed BDCP DEIR/EIS, and another 20 months or more have been wasted – time that the dramatically declining fish populations, and Californians with insufficient water supply don't have.

Unfortunately, it is clear from the commitment of resources to, and support of, the proposed project, and from the degree of specificity with which the proposed project has already been planned, the lead agencies have predetermined what would be the preferred project before undertaking adequate environmental review. The proposed project was not analyzed under CEQA and NEPA at the earliest possible time. Moreover, the proposed project was not described in such a way that would allow for flexibility to respond to changes arising during environmental review. Instead, the lead agencies' favoring towards the proposed project ripened into commitment to a definitive course of action (*i.e.*, a commitment to the proposed project, without any variation) well before meaningful environmental review was performed; and, consequently, the power to influence key public decisions about the project was lost at the outset. (See, e.g., *Save Tara v. City of West Hollywood* (2008) 45 Cal.4th 116, 130-131.) What followed was inadequate environmental review and the preparation of a flawed environmental document.

Contra Costa County also has identified the following specific defects with the RDEIR/SDEIS:

1. The **Project Need** acknowledges there is an urgent need to improve the conditions for threatened and endangered fish species within the Delta. (ES.1.2.2.3 Project Need, Page ES-6). However, the RDEIR/SDEIS is inadequate because it narrowly confines the Project Need statement to improvements in the conveyance system. As described in detail in the January 2014 California Water Action Plan and the 2009 Delta Reform Act, additional storage and actions to conserve water and reduce demand are also needed “*to respond to increased demands upon and risks to water supply reliability, water quality, and the aquatic ecosystem.* (Page ES-6).
2. The RDEIR/SDEIS is inadequate because the preferred alternative (Alternative 4A) and the other BDCP and WaterFix alternatives are not consistent with the Project Objectives (Executive Summary, Page ES-5)

- The proposed physical and operational improvements would not help to restore and protect ecosystem health, water supplies of the State Water Project (SWP) and Central Valley Project (CVP) south of the Delta, and water quality in the Delta.
- The proposed changes to the operation of existing SWP Delta facilities are not adequate to address the existing adverse effects of the SWP on state and federally listed species.
- The SWP and CVP south Delta intakes would still be used for 50% of exports, and the intake to Clifton Court Forebay would remain unscreened.
- Most of the exports during dry years, when the Delta is most stressed, would be from south Delta.
- The lead agencies are assuming the Army Corps of Engineers' limits on inflow to Clifton Court Forebay will no longer apply, and the lead agencies have improperly redefined the SWRCB's export/inflow standards to allow increased exports from the Delta, especially during drier months when the Delta ecosystem is most stressed.

The proposed new facilities and operations for diverting water entering the Delta from the Sacramento Valley and conveying it to existing SWP and CVP pumping plants in the southern Delta will harm and impair, rather than improve, conditions for state and federally listed species. To restore and sustain the Delta ecosystem and also improve water supply reliability, it will be necessary to develop new facilities to capture and store water when there are high flows in the Delta (wet months) and convey that water to south-of-Delta groundwater storage. The RDEIR/SDEIS is inadequate because the proposed project does not meet any of California's urgent ecosystem and water needs.

3. The RDEIR/SDEIS states that the **NEPA Purpose statement** reflects the intent to advance the coequal goals set forth in the Sacramento–San Joaquin Delta Reform Act of 2009 of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem (Page ES-6, Line 21). The RDEIR/SDEIS is inadequate because the project alternatives would hinder rather than advance achievement of the coequal goals.
  - a. Both the unscreened south Delta intakes and the new north Delta intakes on the pathway of migrating anadromous fish would significantly harm key fish species.
  - b. The project proponents have not incorporated increased Delta flow criteria considered by the SWRCB and Department of Fish and Wildlife to be necessary to restore and sustain fish populations.
  - c. The project proponents continue to oppose increased flows in the Fall to protect key fish species (*i.e.*, maintaining Fall X2) and they still include alternatives with no Fall X2 (see Appendix F).
  - d. The project would increase exports from the Delta during dry months when outflows are lowest and the Delta ecosystem is most stressed.
4. The unseemly rush to “*get stuff done*,” and the export contractors’ mandate to remain within the BDCP \$250 million planning budget, meant that no detailed modeling was done of the new alternatives before the RDEIR/SDEIS was released. The RDEIR/SDEIS is



woefully inadequate under CEQA and NEPA because the preferred alternative and other new alternatives were not actually modeled. In other words, there was no objective analysis of project alternatives. This is unacceptable for any project, not to mention a \$15 billion project that would likely significantly harm key fish species; and this is not worthy of State agencies tasked with managing California's water and fish resources.

- a. There are major differences in acreage of habitat restoration and compliance with the Emmaton water quality standard between new alternatives (4A, 2D, and 5A) and the alternatives that were analyzed in the BDCP DEIR/EIS.
  - b. In addition, in response to extensive comments by Contra Costa Water District, the City of Antioch, the North Delta Water Agency and others, the CALSIM II and DSM2 models have been recently corrected and updated to correct problems with the original BDCP Draft EIR/EIS modeling. The lead agencies decided to use the flawed modeling "as is" in the RDEIR/SDEIS (RDEIR/SDEIS Appendix B, page B-3).
  - c. The RDEIR/SDEIS is "*sufficiently incomplete and opaque to deter its evaluation and use by decision makers, resource managers, scientists and the broader public*" (Delta Independent Science Board. September 30, 2015 comment letter).
  - d. Even DWR agrees that the "sensitivity analyses" **are not full model runs**. Minor changes were made to the full model runs performed for the BDCP Public Draft to assess the effects of individual changes to the Emmaton compliance location, the amount of habitat restoration, etc. CALSIM II sensitivity model runs were not re-balanced to address any new or modified effects (as would be done for a full model run) that may be a result of the minor changes. The sensitivity analyses are only valid to assess the impacts of the minor changes. CALSIM II and DSM2 results from the sensitivity runs should only be used to answer the specific questions for which the runs were performed (WaterFix Modeling Data Disclaimer provided to Contra Costa County with the electronic versions of the "sensitivity analysis" data).
  - e. The Alternative 4 CALSIM II models from BDCP Draft EIR/EIS were used, as is, for the Alternative 4A sensitivity analysis, without including any recent updates to the CALSIM II since the draft EIR/EIS was completed. The RDEIR/SDEIS states that this was done "*to remain consistent with the draft EIR/EIS modeling*" (Appendix B, Page B-3, Line 6). Because there were serious problems with the Draft EIR/EIS modeling, the models had to be updated. It is unacceptable to use these flawed analyses for the RDEIR/SDEIS. Relying on these models results in inaccurate estimates of changes in flows, exports and water quality caused by the proposed project and does not provide a reasoned analysis of environmental impacts.
5. The preferred alternative (Alternative 4A) and the other BDCP and WaterFix alternatives would seriously harm key fish species and the Delta ecosystem. The RDEIR/SDEIS is inadequate because it fails to avoid or mitigate these significant adverse impacts to the Bay and Delta ecosystems.
- a. The unscreened south Delta intakes will continue to be used for 50% of the SWP and CVP exports and the WaterFix project would implement new operations rules that would increase rather than decrease south Delta exports.

- b. The new north Delta intakes on the pathway of migrating anadromous fish would significantly harm key fish species, as acknowledged in the BDCP Draft EIR/EIS Executive Summary.
  - c. The north Delta intakes will impact flows in Sutter and Steamboat Sloughs reducing survival of key anadromous fish species.
  - d. The elimination of almost all habitat restoration projects in WaterFix means that there will be no ecosystem offset (*i.e.*, no mitigation) for these substantial, adverse impacts on fish.
  - e. The project alternatives are contrary to State and Federal law (Public Law 112-74) because they fail to contribute to achievement of both of the coequal goals.
6. The RDEIR/SDEIS is inadequate because the preferred alternative (Alternative 4A) and the other BDCP and WaterFix alternatives would not result in any significant increase in **water supply** to exports areas. This therefore fails to meet the project purpose and fails to help achieve the coequal goal of improving water supply reliability for California (2009 Delta Reform Act).
7. The RDEIR/SDEIS is inadequate because the preferred alternative (Alternative 4A) and the other BDCP and WaterFix alternatives fail to analyze and disclose the potentially significant adverse impacts on **water quality** in the Delta. The RDEIR/SDEIS is inadequate because: the water quality changes due to the preferred alternative have not been modeled using full DSM2 runs; the sensitivity analyses are not the same as actual model runs; and any conclusions about water quality impacts in the RDEIR/SDEIS are, therefore, purely speculative.
- a. The BDCP Draft EIR/EIS showed significant adverse water quality impacts throughout the Delta that were described by the BDCP proponents as unavoidable.
  - b. The RDEIR/SDEIS now attempts to demonstrate through sleight of hand (but no actual modeling) that the new project proposal will not result in any water quality impacts.
  - c. The failure to do actual water quality model runs means that the RDEIR/SDEIS relies on speculative language that is not based on fact, or good science. With respect to Barker Slough, the RDEIR/SDEIS states: "Because new alternatives 4A, 2D, and 5A contain a lower acreage of tidal restoration, significant impacts with regard to bromide are not expected under these alternatives (Page ES-28, Line 19). With respect to Suisun Marsh water quality, the RDEIR/SDEIS states: "the results of sensitivity analyses performed indicate that chloride increases in Suisun Marsh predicted via the modeling would not occur, ..... For these reasons, any changes in chloride in Suisun Marsh are expected to have no adverse effect on marsh beneficial uses."
  - d. Fostering further degradation of Delta water quality is poor public policy and contrary to the statutory requirements of the 2009 Delta Reform Act (Cal. Water Code 85020(e));
8. The BDCP Draft EIR/EIS signaled DWR's intent to shift the compliance point for the SWRCB's **Emmaton water quality standard** from Emmaton to Three Mile Slough. This

has been dropped from the RDEIR/SDEIS preferred alternative because it caused significant degradation of water quality in the Delta. This significant adverse impact on Delta water quality is apparently avoidable, despite assertions made in the BDCP Draft EIR/EIS. Because DWR intends to shift the Emmaton compliance point, but after certification of the Final EIR, this represents piecemealing of a project under CEQA (*California Code of Regulations, Section 15126*). *All* phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation.

9. The RDEIR/SDEIS does not comply with CEQA because additional storage will be needed to meet the project need of improving CVP and SWP water supply. Increase Delta flows are also needed to restore and sustain the Delta ecosystem. Apparently this will not be addressed by the SWRCB until after the SWRCB issues water right and Clean Water Act Section 401 approvals for the WaterFix project. Because both additional storage and increased Delta outflows are necessary to achieve the project goals and comply with the 2009 Delta Reform Act, this also represents piecemealing of the project under CEQA (*California Code of Regulations, Section 15126*).
10. The RDEIR/SDEIS is inadequate because it fails to analyze a reasonable range of alternatives, as required under CEQA and NEPA, as well as the 2009 Delta Reform Act. The nature and scope of the alternatives analyzed in the RDEIR/SDEIS do not satisfy the "rule of reason" and do not enable the lead agencies to make a "reasoned choice" regarding the project.
  - a. Fourteen (14) of the 15 alternatives in the BDCP Draft EIR/EIS were essentially the same alternative (an isolated facility and north Delta intakes). The three new alternatives in the RDEIR/SDEIS have the same basic infrastructure as the original 14. Only BDCP Draft EIR/EIS Alternative 9, through-Delta conveyance only, is different from the others. None contributes to achievement of the coequal goals.
  - b. Previous commenters on the BDCP have suggested alternatives that incorporate a portfolio of actions, such as water conservation, desalination, and local water supply reliability to reduce demand for water from the Delta. Commenters have also suggested adding new storage to allow water to be captured during periods of high flow into the Delta and through into San Francisco Bay, as well as alternative locations for the new intakes, such as the western Delta at Sherman Island. Commenters and the SWRCB have also requested alternatives that include significant increases in Delta outflows, but these were not taken seriously by the WaterFix lead agencies. Therefore, the lead agencies have failed to comply with CEQA by failing to provide a good faith, reasoned analysis of comments and suggested project alternatives. Moreover, although commenters have proposed alternatives that would reduce significant environmental impacts and achieve most project objectives, the lead agencies have excluded those suggestions from the alternatives analysis, thereby violating CEQA.

- c. No actions to reduce reliance on the Delta, such as regional supplies, conservation or water use efficiency, are considered. (2009 Delta Reform Act, Cal. Water Code Section 80521);
  - d. No screening of the Clifton Court Forebay even though screening of other Delta diversions is proposed as a conservation measure, and the Conceptual Engineering Report for a through-Delta alternative shows that constructing a screened intake off Victoria Canal is indeed feasible.
11. The analysis of water quality impacts in the BDCP Draft EIR/EIS used computer models that contained significant errors. These models have since been updated. The analysis for the RDEIR/SDEIS was based only on "sensitivity analyses" which DWR acknowledges are not actual model runs. The RDEIR/SDEIS is woefully inadequate because it:
  - a. Fails to accurately model and disclose the magnitude of adverse Delta water quality impacts;
  - b. Fails to disclose adverse water quality impacts that would occur in subsequent months once the BDCP modeling errors were corrected;
  - c. Fails to meet required SWRCB standards such as the Rock Slough chloride standards, even in the base cases (i.e., without BDCP);
  - d. Fails to apply consistent flow inputs to the water quality models. The use of daily variations in Sacramento River inflows to the Delta but monthly variations in Delta exports in the BDCP modeling studies caused large unrealistic spikes in water quality that distort the impact analyses. It is reasonably feasible to evaluate the true environmental impacts of the proposed project using accurate modeling; the lead agencies just choose not to do that. And the lead agencies have failed to provide a reasoned basis for not analyzing these impacts.
12. The analysis of environmental impacts in the RDEIR/SDEIS includes a number of significant changes to existing facilities and existing Delta operation standards (e.g., State Water Resources Control Board Water Rights Decision 1641 ("D-1641")). The RDEIR/SDEIS is inadequate because it hides and fails to disclose the individual adverse impacts of each individual change. These changes are:
  - a. Adding new diversion intakes in the north Delta on the Sacramento River;
  - b. Adding a permanent operable flow barrier at the Head of Old River;
  - c. Eliminating or ignoring the existing U.S. Army Corps limits of the inflow from the south Delta into Clifton Court Forebay;
  - d. Relaxing the SWRCB's D-1641 export/inflow standards to allow increased exports;
  - e. Ignoring the current biological opinion limits on the ratio of San Joaquin inflow to south Delta exports.
13. The RDEIR/SDEIS assumes new limits on operation of the south Delta export pumps in the fall (September-November) and the spring (March-May), which when combined with existing Delta standards in the spring (February-June X2 limits) will shift the existing impacts of reduced flows and export diversions to July-August. Unless enhanced protections for fish are also set during July and August along with Fall X2 limits in critical,

dry and below normal years, the proposed project will put other fish species, not currently listed or in decline, at risk. The RDEIR/SDEIS is inadequate because it fails to protect resident fish species from redirection of adverse impacts to the summer months.

- a. The WaterFix operations criteria need to include Old and Middle River flow limits for July- September. This is consistent with the original objectives of reducing (not increasing) exports from the south Delta;
- b. The BDCP operational criteria needs to have Fall X2 limits for critical, dry and below normal years, as well as corresponding Delta outflow, X2 and Rio Vista flow requirements for July-August;
- c. The proposed WaterFix north Delta intake would need to include more protective limits for July- September to avoid shifting adverse impacts to these three months.

14. The RDEIR/SDEIS fails to fully analyze alternatives with increased flows as a percentage of unimpaired flow as informed by the SWRCB's 2010 Delta Flow Criteria Report and corresponding California Department of Fish and Wildlife (formerly Fish and Game) 2010 Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta Report. The RDEIR/SDEIS is also inadequate because it fails to present modeling study flow results as percentages of unimpaired flow to allow comparison with the SWRCB and DFW recommendations. By not presenting this essential information, the RDEIR/SDEIS hides significant adverse environmental impacts from decision makers, regulators, and the public, in violation of CEQA and NEPA. Once again, it is reasonably feasible to evaluate the true environmental impacts of the proposed project using accurate modeling; the lead agencies just choose not to do that. And the lead agencies have failed to provide a reasoned basis for not analyzing these impacts.

15. The RDEIR/SDEIS fails to optimize reservoir operation rule curves to represent realistic reservoir and export operations by the SWP and CVP in response to new conveyance facilities, global climate change and enhanced Delta flow requirements.

Because of these and other WaterFix RDEIR/SDEIS inadequacies, a new Draft EIR/EIS must be prepared that addresses all of these important issues. A broad group of Delta stakeholders must be invited by the California Natural Resources Agency and the U.S. Department of Interior to engage in this process of getting the development of a viable solution to the ecosystem, water quality, levee, groundwater, instream flow, and water supply reliability problems of the Bay-Delta system back on track. The new Draft EIR/EIS must then be released for detailed public review and comment.

## **Contra Costa County Comments on WaterFix RDEIR/SDEIS**

### **General Comment on the Inadequacy of All BDCP Alternatives**

The Draft Bay-Delta Conservation Plan (BDCP)/California WaterFix (WaterFix) partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) focuses on the WaterFix preferred alternative (Alternative 4A), a 9,000 cfs isolated facility with continued use of the south Delta export intakes. However, most of the flaws identified by Contra Costa County and others with respect to this preferred alternative also apply to the other new alternatives and those in the BDCP Draft EIR/EIS.

All of the alternatives analyzed in the RDEIR/SDEIS are inadequate. A new Draft EIR/EIS must be prepared that analyzes new alternatives incorporating increased Delta flows to restore and sustain fish populations (consistent with the State Water Resources Control Board's (SWRCB) 2010 Delta Flow Criteria), new storage, other potential intake locations, actions to reduce demand for water from the Delta, levee strengthening, and groundwater recharge and management actions. The new Draft EIR/EIS must include actual modeling studies of the alternatives, not brief sensitivity analyses, with water quality analyses for the full period of the operations studies (1922-2003, preferably extended through 2014). The new Draft EIR/EIS should then be released for public review and comment.

The County's comments focus on the WaterFix preferred alternative 4A, Scenario H3. The County is still very concerned that the alternatives still include elimination of the Army Corps limits on inflow to Clifton Court Forebay, and fail to comply with the Central Valley Project (CVP) and State Water Project (SWP) biological opinion limits on the San Joaquin inflow to south Delta exports ratio. The preferred alternative includes Fall X2, but the project proponents are still leaving open the possibility of operating the WaterFix preferred alternative without Fall X2 (see RDEIR/SDEIS Appendix F).

Considering the significant historical reduction of flows and degradation of water quality in the Delta in the fall, as well as the scientific relationships between fish abundance and X2 in the Fall, it is outrageous that the Natural Resources Agency, the Department of Water Resources, and the U.S. Bureau of Reclamation continue to fail to accept the need for increased outflows in the Fall and decreased Fall X2.

It is also appalling that these agencies with responsibilities to contribute to protecting fish in the Delta, have failed to analyze alternatives designed to adapt to reasonably foreseeable SWRCB increased Delta flow requirements (consistent with the 2010 Delta Flow Criteria developed by the SWRCB and Department of Fish and Wildlife). An alternative (4H3) that responds to a SWRCB request for analysis of increased Delta flow requirements is discussed in Appendix C, but no attempt was made modify the proposed project, e.g., by adding storage, to optimize this potentially more viable alternative.

Most of the serious flaws identified by Contra Costa County and others with the WaterFix preferred alternative remain, such as the harm caused to key fish species, degradation of Delta water quality, increasing rather than decreasing total exports and even south Delta exports during drier months (relative to existing conditions), and the failure to increase water supply reliability, also apply to the other WaterFix and BDCP alternatives.

A new Draft EIR/EIS must be prepared that includes alternatives that commit to actions that actually achieve the co-equal goals of improving water supply reliability and restoring the Delta ecosystem, while improving Delta water quality and protecting the Delta as a place. The new Draft EIR/EIS must then be released for public review and comment.

**General Comment – The WaterFix preferred alternative hinders rather than contributes to meeting coequal goals and the needs of California**

The RDEIR/SDEIS preferred alternative is significantly flawed and is not in the interest of California. The latest WaterFix proposal is the result of the state and federal administrations ceding their responsibilities to the export water contractors. The proposed north Delta intakes and operating rules will harm key fish species by reducing flows downstream of the intakes which also increases predation and reduces survival, altering the olfactory cues for returning salmon and steelhead, and impinging and entraining fish at the new screened intakes. The preferred alternative will continue to rely on south Delta exports for 50% of the total exports and will increase rather than decrease exports in drier months, will not minimize reverse flows in many months and will increase reverse flows in some, and Clifton Court Forebay will remain unscreened. The south Delta exports will, therefore, continue to harm key fish species.

The BDCP proposed project was found to significantly degrade water quality in the Delta and impair drinking water, agriculture, recreation and fish and wildlife beneficial uses in the Delta. No full model runs were performed to determine the water quality impacts of the new WaterFix alternatives, only “brief sensitivity analyses” with incomplete information and based on earlier flawed BDCP model runs for entirely different amounts of habitat restoration and sea level rise (late long term instead of early long term) have been run. The WaterFix proponents now speculate that the water quality impacts identified in the Draft BDCP EIR/EIS are now avoidable, but present no model run data to support this claim.

Depending on how much habitat restoration is done for WaterFix and EcoRestore and the locations of that habitat restoration, the adverse water quality impacts in some areas of the Delta such as Barker Slough and Suisun Marsh could be extremely large. The habitat restoration under WaterFix and EcoRestore is not specified or analyzed in the RDEIR/SDEIS.

The BDCP proponents have refused to seriously consider alternatives that incorporate actions identified in the January 2014 California Water Action Plan and requested repeatedly by commenters on the BDCP Administrative Draft EIR/EIS and Public Draft EIR/EIS, *e.g.*, additional storage and other infrastructure to allow the project to capture additional water in wet months, and water use efficiency and demand reduction actions. This would make more water available in an environmentally responsible way that could then be used to improve water supply

reliability and improve the Delta ecosystem by reducing exports in drier periods. The current drought emergency has demonstrated the need for ways to capture water in wet months and store it for later use during drier periods.

The WaterFix preferred alternative also hinders and delays California's efforts to increase California's water supply reliability. The proposed north Delta intake and tunnel project fails to produce any significant increase in water supply from the Delta.

The WaterFix and BDCP alternatives fail to achieve either of the coequal goals set by the legislature, and endorsed by Congress in 2009 (Public Law 112-74). The immense financial and human resources cost of the proposed project will prevent other more viable actions to address California's water problems from being realized.

The RDEIR/SDEIS must be withdrawn, new alternatives developed and analyzed in detail, and a new Draft EIR/EIS must be released for public comment and review.

**General Comment – The WaterFix proposed project is seriously flawed because it will harm rather than benefit listed fish species**

The WaterFix proposed project is seriously flawed. The original basis for the Bay-Delta Conservation Plan was to obtain regulatory assurance (50 years) by improving and restoring the ecosystem in the Delta for key fish species. The WaterFix project will no longer restore the promised 65,000 acres of habitat, instead only a small amount of restoration is proposed by the project proponents to be enough to mitigate impacts from the WaterFix project.

However, the conveyance component of the BDCP proposal, adding new export intakes in the north Delta on the Sacramento River, was retained. This was recommended by the fish agencies many years ago as a means of reducing the impacts of south Delta exports on fish. Detailed review of the analyses performed for the BDCP and WaterFix environmental documents reveal that the impacts of the south Delta exports will remain significant.

The WaterFix preferred alternative would:

- (a) Eliminate or ignore existing U.S. Army Corps of Engineers limits on inflow to Clifton Court Forebay which would result in increases in the maximum inflows from 6,680-7,180 cfs up to 10,300 cfs (BDCP Draft EIR/EIS, page 3-32. line 12 and not disclosed in the RDEIR/SDEIS);
- (b) Fails to screen the intake to the Forebay (even though DWR's November 2009 Conceptual Engineering Report – Through-Delta Facility Conveyance Option contains feasible examples of how this could be done, see Fig. 7-5 of the CER);
- (c) Creates reverse flows in Old and Middle River (OMR) that are even worse at certain times of the year relative to existing conditions, and fail to minimize reverse flows in many other months;



- (d) Ignore the biological opinion limits on the ratio of San Joaquin inflow to south Delta exports;
- (e) Still use the south Delta for 50% of the total SWP and CVP exports.

As revealed in the November 2013 Draft BDCP, the north Delta intake would also harm key fish species by reducing flows on the Sacramento River below the new intakes which will reduce the survival of anadromous fish heading to and from the ocean, change the olfactory cues used by the salmon to return to their native spawning grounds, and increase predation (see BDCP pages 3.2-8, 5.5.3-32 and 5.5.3-39).

The three new WaterFix intakes will be upstream of the entrances to Sutter and Steamboat Sloughs. Reductions in flows in the Sacramento River below the intakes will likely reduce the percentage of out-migrating salmon using the safer Sutter-Steamboat route to the ocean. The project proponents considered locating the north Delta intakes downstream of the entrances to Sutter and Steamboat to reduce this significant adverse impact on these key fish species (BDCP Draft EIR/EIS, Appendix 3F, page 3F-6), but the intakes are now proposed to be located upstream. The BDCP also assumed that tidal restoration in the Cache Slough complex could modify flows and tidal variations and reduce the impacts of the north Delta intakes on fish passage through Sutter and Steamboat. However, this tidal habitat restoration is no longer part of the WaterFix project.

The proposed WaterFix new intake and tunnel facilities and continued use of the inadequately screened south Delta export intakes are likely to seriously harm key fish species and fail to contribute to restoring and sustaining the Delta ecosystem. A new Draft EIR/EIS must be prepared that includes new alternatives incorporating new storage, other possible intake locations in the Delta, that would benefit threatened and endangered species and other resident fish in the Delta. The new Draft EIR/EIS must then be recirculated for public review and comment.

**General Comment – The impacts of the WaterFix plan to increase the inflow to the unscreened Clifton Court Forebay from the south Delta are not disclosed, analyzed or permitted**

A detailed review of the WaterFix sensitivity analyses data for Alternative 4A reveals that the monthly exports from the south Delta exceeded the U.S. Army Corps of Engineers (USACE) limits on inflow to Clifton Court Forebay from the south Delta. See Attachment C to this letter.

As described on page 5A-B6, per U.S. Army Corps of Engineers Public Notice 5820A (13 October 1981), the USACE determined that DWR would not require additional USACE permitting for the SWP's diversions from the Delta as long as the SWP is limited to daily diversion into Clifton Court Forebay that would not exceed 13,870 acre-feet and the 3-day average diversions into Clifton Court Forebay would not exceed 13,250 acre-feet (about 6,680 cfs). In addition, the SWP can increase diversions into Clifton Court Forebay by one third of the

San Joaquin River flow at Vernalis during the period from mid-December to mid-March when the flow of the San Joaquin River at Vernalis exceeds 1,000 cfs.

As also described on page 5A-B3 of the BDCP Draft EIR/EIS, an additional capacity of 500 cfs (up to 7,180 cfs) is allowed into Clifton Court Forebay for July–September for reducing impact of NMFS biological opinion (June 2009) Action IV.2.1 Phase II on the SWP.

During April–November when inflows are limited 6,680 – 7,180 cfs, the sensitivity analyses for Alternative 4A, and BDCP modeling studies suggest inflows to Clifton Court (SWP through-Delta exports) will be as high as 9,750 cfs with total south Delta exports as high as 14,350 cfs. This is not consistent with the claimed benefit of the north Delta intakes of reducing exports from the south Delta.

The WaterFix RDEIR/SDEIS is inadequate because it fails to clearly disclose to the public and to decision makers like the Army Corps that DWR is proposing to eliminate existing limits on the inflow to Clifton Court. In several locations in the BDCP Draft EIR/EIS, it was noted that pumping at Banks Pumping Plant is assumed to be up to the installed capacity of 10,300 cfs. In Table 3-6 on page 3-36 of the BDCP Draft EIR/EIS, it is stated that Alternatives 1-4 and Alternatives 6-8 do not incorporate the operational rule related to the permitted limit on Clifton Court Forebay inflow (6,680 cfs plus 1/3 of San Joaquin River Dec 15–March 15). Therefore, it is not clear whether the operation rule is in fact 10,300 cfs. The revisions to BDCP Draft EIR/EIS Chapter 3 in the RDEIR/SDEIS (Appendix A, Chapter 3) no longer include reference to the limits on Clifton Court inflow, nor are there any tracked change deletions.

DWR also failed to disclose its intent to eliminate the limits on inflow to Clifton Court in its Section 404 application to the Army Corps. Nowhere is it disclosed whether this is DWR's intent or not, but the sensitivity analysis data in the RDEIR/SDEIS contains frequent willful exceedances of this limit.

This proposal to increase SWP exports from the south Delta is a major change that could have significant impacts on the Delta ecosystem and Delta water quality. It is also contrary to the stated project goal of reducing the existing adverse impacts of south Delta diversions. A new Draft EIR/EIS must be prepared that fully discloses DWR's intent to increase south Delta exports and to disclose the environmental impacts of eliminating the current U.S. Army Corps limits. This will enable the public and regulatory agencies to assess the adverse environmental impacts of this proposed change.

**General Comment – RDEIR/SDEIS is inadequate because it fails to describe and analyze alternatives that would improve rather than degrade water quality in the Delta**

*CEQA requires that an “EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, 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.”* (CEQA Guidelines, 14 CCR § 15126.6(a))

The RDEIR/SDEIS is inadequate because it fails to consider and analyze feasible alternatives that incorporate additional storage and new infrastructure to capture “new” water during periods of high flow in the Delta, as well as other more viable intake locations that would not harm key fish species. Both the south Delta and north Delta intake locations would significantly harm fish species. The south Delta export intakes are unscreened or inadequately screened and cause reverse flows that increase entrainment and mortality of fish species in the Delta.

The north Delta intakes will reduce flow into and through the Delta, cause reverse flows in the north Delta and reduce migrating fish survival, and increase predation impacts. The November 2013 Draft BDCP acknowledged that the north Delta intakes will have an adverse impact on key fish species. This is not offset by reducing exports from the south Delta because the south Delta export intakes will continue to be used for 50% of the total exports and most of the exports will still be from the south Delta in dry periods.

The RDEIR/SDEIS also fails to seriously analyze alternatives that incorporate increased Delta flows consistent with the Delta Flow Criteria developed by the SWRCB and Department of Fish and Wildlife in 2010. The analyses that were done (BDCP Alt. 8 and WaterFix Alt. 4H3) used the same configuration as the proposed project without incorporating any infrastructure such as new storage that would allow “new” water to be captured to offset the water being made available to help restore and sustain the Delta ecosystem. New alternatives involving higher Delta flows during dry periods and new storage will help to improve water quality in the Delta, as required by the 2009 Delta Reform Act, rather than degrade it.

The RDEIR/SDEIS must be withdrawn immediately and additional more viable, less costly, alternatives developed. A new Draft EIR/EIS must then be prepared and released for public review and comment.

**General Comment – RDEIR/SDEIS is inadequate because it assumes away significant adverse impacts on water quality without doing any detailed modeling runs**

The November 2013 BDCP Draft EIR/EIS disclosed significant adverse impacts on water quality in the Delta. The BDCP Draft EIR/EIS described these significant adverse impacts as unavoidable, despite State policy and antidegradation statutes requiring that Bay-Delta projects not only contribute to achieving the both coequal goals, but also contribute to **improving** water quality in the Delta (2009 Delta Reform Act, Cal. Water Code § 85020(e)). The BDCP Draft EIR/EIS failed to offer any meaningful, binding, or effective mitigation for these significant adverse impacts.

Incomprehensibly, the July 2015 California WaterFix RDEIR/SDEIS states that the new alternatives (4A, 2D and 5A) do not have any significant impacts on water quality in the Delta. Apparently, the lead agencies new position is that the significant adverse impacts in the Draft EIR/EIS were avoidable after all.

The July 2015 RDEIR/SDEIS assumes away these significant adverse impacts without supporting those assumptions with any detailed model runs, and only using “brief sensitivity analyses” (Appendix B, page B-1) based on BDCP Draft EIR/EIS modeling studies that were flawed. Comments on the BDCP Draft EIR/EIS by Contra Costa Water District, the City of Antioch, North Delta Water Agency and others identified significant problems with those studies and the modeling tools that were used. The RDEIR/SDEIS acknowledges the CALSIM II model has since been updated (Appendix B, page B-3) but the lead agencies apparently did not consider it was necessary to provide the public and regulatory agencies with new, corrected, detailed model runs. The CALSIM II model runs from the Draft EIR/EIS were “*used as is ..... to remain consistent with the draft EIR/EIS modeling*” (Page B-3) so errors with the original modeling are also in the RDEIR/SDEIS sensitivity analyses.

The claims, in the RDEIR/SDEIS, that there are no significant adverse water quality impacts are purely speculative and optimistic, without any accurate analysis to support them. A new Draft EIR/EIS must be prepared with input from a wide stakeholder group that analyzes and discloses the water quality and other environmental impacts of Alternatives 4A, 2D and 5A and new alternatives that actually contribute to achieving both coequal goals. The new Draft EIR/EIS should then be released for public review and comment.

**General Comment – Sensitivity Analyses based on completely different operating rules and climate change conditions are not a substitute for full model runs**

The lead agencies used “brief sensitivity analyses” that DWR acknowledges are not full model runs.

The RDEIR/SDEIS in revised language states (Appendix A, Appendix 8G, page 8G-1): “*Understanding the uncertainties and limitations in the modeling and assessment approach is important for interpreting the results and effects analysis, including assessment of compliance with water quality objectives. .... In light of these limitations, the assessment of compliance is conducted in terms of assessing the overall direction and degree to which Delta chloride would be affected relative to a baseline, and discussion of compliance does not imply that the alternative would literally cause Delta chloride to be out of compliance a certain period of time. In other words, the model results are used in a comparative mode, not a predictive mode.*” The RDEIR/SDEIS is inadequate because it fails to carry out full model runs that simulate the absolute impacts of the proposed project.

DWR included the following Disclaimer with its transmittal of the RDEIR/SDEIS “sensitivity analyses” data to the public.

**Sensitivity analyses are not full model runs!** Minor changes (as summarized below) have been made to the full model runs performed for the BDCP Public Draft to assess the effects of the specific change. CALSIM II sensitivity model runs were not re-balanced to address any new or modified effects (as would be done for a full model run) that may be a result of the minor changes. The

sensitivity analyses are only valid to assess the impacts of the minor changes. CALSIM II and DSM2 results from the sensitivity runs should only be used to answer the specific questions for which the runs were performed.

The RDEIR/SDEIS (Appendix B, Page B-3) states that Alternative 4 CALSIM II models from draft EIR/EIS were used, as is, for the Alternative 4A sensitivity analysis, without including any recent updates to the CALSIM II. The RDEIR/SDEIS says the reason for not using the most recent, corrected, versions of the CALSIM II flow operations model was “*to remain consistent with the draft EIR/EIS modeling.*” As discussed in detail in comments by Contra Costa Water District, the City of Antioch, the North Delta Water Agency, and others on the November 2013 Draft EIR/EIS, the draft EIR/EIS modeling was seriously flawed, and the models themselves have since had to be updated.

The sensitivity analyses are also unacceptable for a CEQA/NEPA analysis of environmental impacts because only minor changes were made to the flawed draft EIR/EIS model runs and the CALSIM II runs were not rebalanced or optimized to take into account other changes to the alternatives (DWR Modeling Data Disclaimer).

The sensitivity analyses approach in the RDEIR/SDEIS is not valid and does not inform the Alternative 4A impact analysis.. In fact, it may result in misleading results. For example, the water quality sensitivity analyses were carried out using BDCP proposed project Alternative 4 at late long term (year 2060 future conditions, 65,000 acres of habitat restoration and 45 cm of sea level rise) but the impact analysis in the RDEIR/SDEIS is done at the early long term (year 2025, 25,000 acres of habitat restoration and 15 cm of sea level rise) conditions. Because the water quality analyses still included sea level rise, the effect of seawater is simulated to be much greater at late long term than at early long term.

The RDEIR/SDEIS is inadequate because it uses flawed draft EIR/EIS modeling and a “*brief sensitivity analysis*” (RDEIR/SDEIS Appendix B, page B-1) to analyze and disclose the environmental impacts of a project of statewide importance that is likely to cause significant harm to the Delta ecosystem, and other Delta beneficial uses.

The RDEIR/SDEIS itself acknowledges that “*there is notable uncertainty in the results of all quantitative assessments that refer to modeling results, due to the differing assumptions used in the modeling and the description of the No Action Alternative (ELT)*” (Chapter 4, Page 4.2-18).

The RDEIR/SDEIS states that “*Based on the sensitivity analyses, optimizing the design and siting of restoration areas is expected to be able to reduce EC and chloride increases in Suisun Marsh, relative to Existing Conditions and the No Action Alternative, to levels that would be less than significant.*” (Page ES-27, Line 16) As discussed above, the sensitivity analyses were performed under quite different conditions (late long term with additional sea level rise and much more habitat restoration, 65,000 acres) than the preferred alternative, Alternative 4A (early long term, less sea level rise, no shift in the Emmatton compliance location, and no significant amount of habitat restoration). The RDEIR/SDEIS makes no firm commitments to mitigate the expected impacts by implementing habitat restoration at optimized sites. Only a small amount of

habitat restoration is being considered as part of California EcoRestore and that is already required under the OCAP Biological Opinions. There is no commitment by the WaterFix lead agencies to site that habitat restoration to mitigate Suisun Marsh, Barker Slough or other expected Delta water quality impacts. There are no reliable “facts in evidence” to support the optimistic expectation that water quality impacts will be reduced to less than significant levels. The RDEIR/SDEIS must be withdrawn immediately and detailed modeling studies and analysis of Alternative 4A and additional more viable, less costly, alternatives must be carried out. A new Draft EIR/EIS must then be prepared and released for public review and comment.

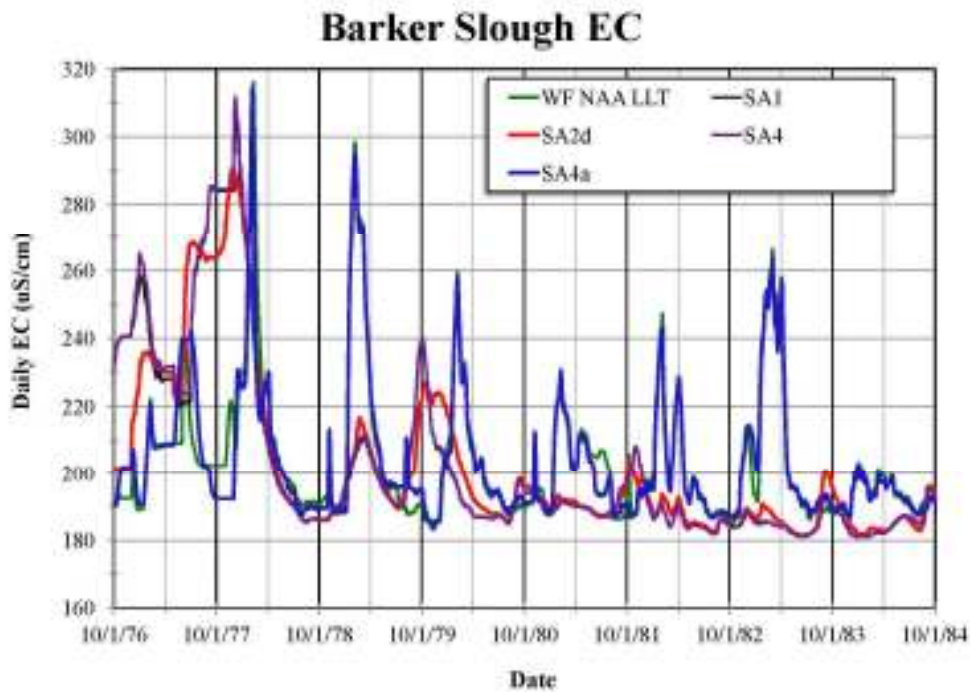
**General Comment – Sensitivity Analyses show a large range of potential water quality impacts at Barker Slough and in Suisun Marsh**

The Sensitivity Analyses were based on the flawed modeling for Alternative 4, Scenario H3 at late long term, i.e., 2060 conditions with habitat restoration, and were not updated using the most recent versions of the CALSIM II and DSM2 models. Figures B-1 and B-2 show the range of EC at Barker Slough for some of the sensitivity analyses:

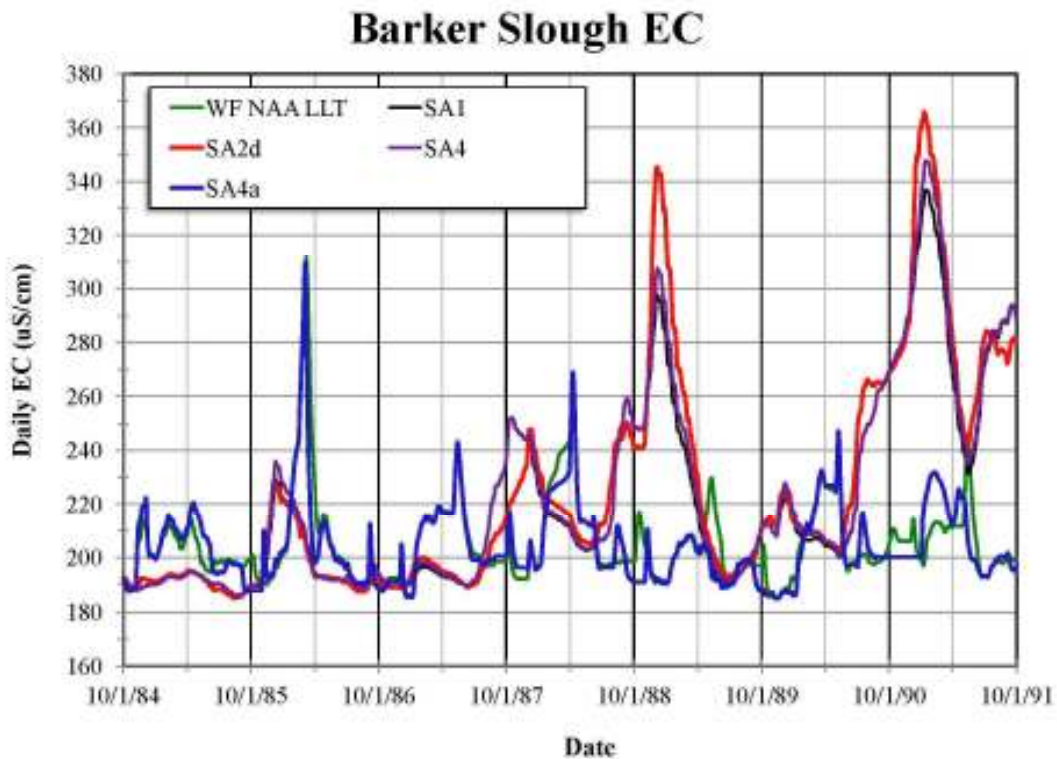
- SA1 BDCP Draft EIR/EIS Alternative 4, Scenario H3 at LLT
- SA2d Same as SA1 but with compliance at Emmaton and daily flow variations
- SA4 Same as SA1 but with Suisun Marsh Control Gate operations consistent with the NAA
- SA4a Same as SA4 but without the 65,000 acres of tidal habitat restoration

The sensitivity analysis data were provided to the County by DWR. Also plotted for comparison purposes is the No Action Alternative developed for the WaterFix RDEIR/SDEIS for late long term. The RDEIR/SDEIS only presented the water quality data as the averages for each month of the year for the short period modeled, water years 1976-1991, and for the water year 1987-1991 drought period. The 1976-1977 drought period was not included in the drought averaging.

As shown in Figure B-1 and Figure B-2, removing the 65,000 acres of habitat restoration could reduce EC at Barker Slough during drought periods (relative to the BDCP Draft EIR/EIS proposed project, SA1) but increases EC significantly in normal and wetter years.



**Figure B-1:** Daily EC values at Barker Slough from the sensitivity analyses for the period October 1976 through September 1984.



**Figure B-2:** Daily EC values at Barker Slough from the sensitivity analyses for the period October 1984 through September 1991.

The RDEIR/SDEIS only presents bromide concentration changes at Barker Slough and Belden's Landing as period averages (Appendix B, Tables Br-1 and Br-2) but does present chloride concentration changes at these two locations as period averages for each month of the year (Tables Cl-6 and Cl-7). The bromide and chloride concentrations are derived from the simulated EC data using two different methods. However, the corresponding presentation of EC data (Table EC-8A) does not show the averages for Barker Slough or Belden's Landing. This is a major omission.

However, as noted by the Delta Independent Science Board in their September 30, 2015 review of the RDEIR/SDEIS, the presentation of data in this environmental document is "*sufficiently incomplete and opaque to deter its evaluation and use by decision makers, resource managers, scientists and the broader public.*" The use of long-term averages in the tables in Appendix B masks the significant changes in water quality at Barker Slough and Belden's Landing and fails to disclose significant adverse water quality impacts.

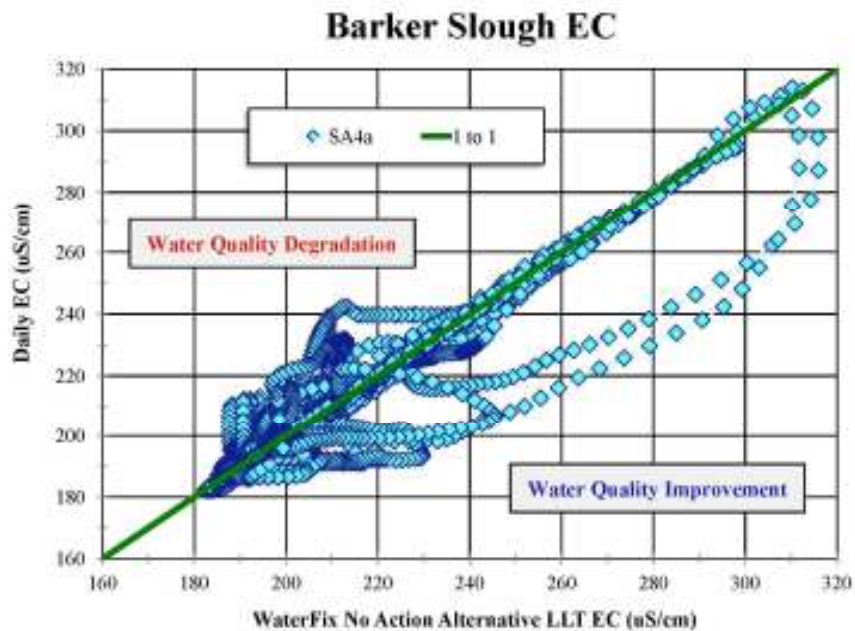
Depending on where the habitat restoration needed to mitigate the significant adverse impacts of the WaterFix preferred alternative is implemented, and where the habitat restoration for California EcoRestore is implemented, the water quality impacts at Barker Slough and in Suisun Marsh could be significant. The timing of those impacts will also vary depending on the degree of habitat restoration. It is crucial that these impacts be determined, analyzed using full model runs, disclosed and either avoided or mitigated defined, before decisions are made by regulatory agencies such as SWRCB and the Army Corps and the lead agencies regarding the WaterFix project.

Figures B-3 and B-4 show the EC data for each month of the 16-year sensitivity analysis simulation period (192 data points) in the form of scatter plots. The EC data for Barker Slough and Belden's Landing for Sensitivity Analysis #4 (no habitat restoration) are plotted as a function of the WaterFix No Action Alternative and both are at late long term.

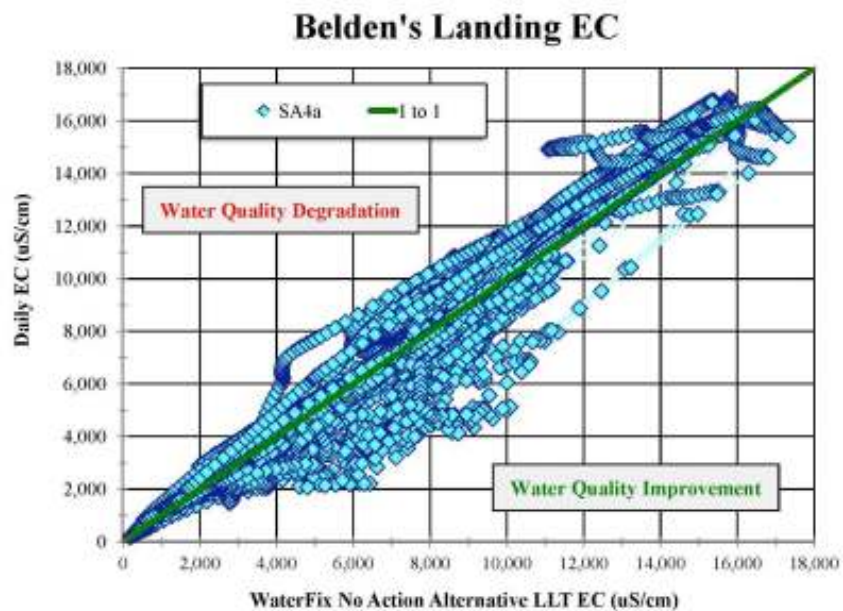
Some peak ECs at Barker Slough are reduced relative to the No Action equivalent but significant adverse impacts occur at other times. There are some reductions in EC relative to the No Action equivalent at Belden's Landing but significant adverse impacts occur at other times. The presentation of water quality data must present the data in sufficient detail to fully disclose the daily or month to month variations in water quality, in particular the occasions when salinities increase significantly. It is not acceptable to only present long-term averages that obscure and reduce the significant impacts on urban and agricultural water users, and the Delta ecosystem.

The RDEIR/SDEIS is inadequate because it fails to present analyses data in a form that discloses the daily or month to month impacts of the proposed project on water quality and fails to avoid or provide definitive mitigation for these significant impacts on water quality.





**Figure B-3:** Scatter plot of daily EC values at Barker Slough from the WaterFix sensitivity analyses with no restoration (SA4a, LLT) for the period October 1975 through September 1991. Some peak EC are reduced relative to the No Action equivalent but significant adverse impacts occur at other times.



**Figure B-4:** Scatter plot of daily EC values at Belden's Landing from the WaterFix sensitivity analyses with no restoration (SA4a, LLT) for the period October 1975 through September 1991. There are some reductions in EC relative to the No Action equivalent but significant adverse impacts occur at other times.

**General Comment – The RDEIR/SDEIS appears to deceive the public and decision makers by presenting tabulated water quality data for the new alternatives when no modeling was done for these specific alternatives**

The RDEIR/SDEIS appears to deceive the public and decision makers by claiming that Alternatives 4A, 2D and 5A were evaluated, and that the evaluation was at early long term. Of particular concern are the tables in Appendix B, Supplemental Modeling Results for New Alternatives that claim to present the water qualities for Alternative 4A for Scenario H3 and H4 at early long term when no full model runs or even sensitivity runs were performed for those cases.

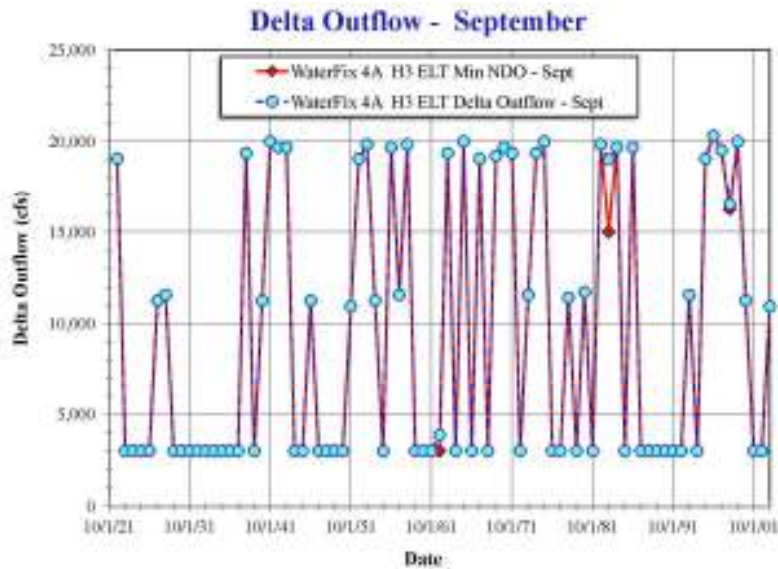
A new Draft EIR/EIS must be prepared that performs full modeling of the operations and water quality with the proposed project and new alternatives designed to actually help achieve both coequal goals. Revised modeling results, not based on speculated or assumed values must be presented in the water quality tables. A new Draft EIR/EIS must then be prepared and released for public review and comment.

**General Comment – The assumptions in the CALSIM II modeling regarding Delta outflows required to meet Fall X2 may exaggerate the amount of flow needed and reduce the actual water quality impacts of the proposed project**

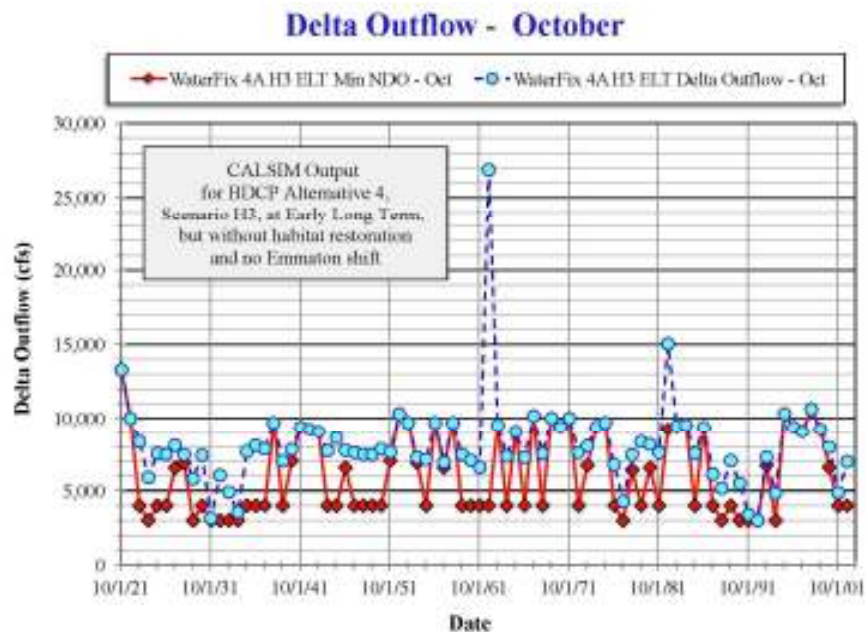
Under existing conditions, the equivalent steady-state Delta outflows required to meet the D-1641 estuarine habitat standards (X2) at Chipps Island (aka Mallard Island) and Collinsville are defined as 11,400 cfs and 7,100 cfs, respectively. By 2025 (early long term) and 2060 (late long term), sea level rise will mean that the amount of Delta outflow needed to meet X2 will increase.

The outflows required to meet the Fall X2 requirement in September and October in the WaterFix analyses using CALSIM II, however, are very much larger. As shown in Figure B-5, the assumed minimum Delta outflows to meet X2 at Mallard Island (in wet years) and Collinsville (above normal years) are about 19,500 cfs and 11,500 cfs, respectively. These flows seem to be too high and may be artificially freshening the Delta during September and underestimating the water quality impacts of the proposed project. The reason for these high flows may be because the CALSIM II only attempts to meet September X2 requirements at the last minute, whereas increasing Delta outflows earlier will require much less Delta outflow.

Figure B-6 shows in the corresponding Delta outflows and minimum required Delta outflows for October. The October outflows are governed by the need to meet Fall X2 in wet and above normal years. Otherwise the D-1641 requirement of 3,000 cfs in critical years and 4,000 cfs in other water years applies. The flows assumed to be required to meet Fall X2 are consistent with the existing X2 outflow requirements. However, excess Delta outflows are occurring in many below normal, dry and critical years, which may underestimate the actual water quality impacts of the proposed project.



**Figure B-5:** Delta outflows and minimum required outflows for September for the WaterFix operations modeling to represent the preferred alternative 4A at early long term. The outflows are governed by the need to meet Fall X2 in wet and above normal years. Otherwise, the D-1641 requirement of 3,000 cfs applies. The flows assumed to meet Fall X2 are much higher than the outflow requirements for existing conditions, i.e., 11,400 and 7,100 cfs, respectively.



**Figure B-6:** Delta outflows and minimum required outflows for October for the WaterFix operations modeling to represent the preferred alternative 4A at early long term. The outflows are governed by the need to meet Fall X2 in wet and above normal years. Otherwise, the D-1641 requirement of 3,000 cfs in critical years and 4,000 cfs in other water years applies. The flows

*assumed to be required to meet Fall X2 are consistent with the existing X2 outflow requirements, but excess Delta outflows are occurring in drier years which may underestimate the actual water quality impacts of the proposed project.*

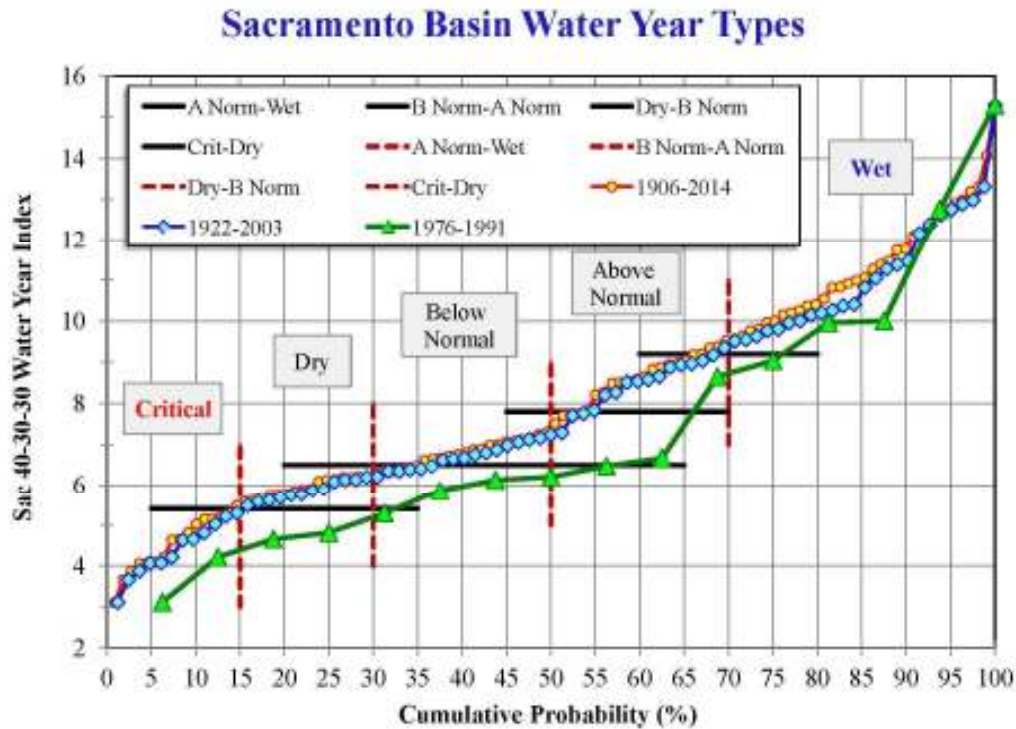
The limited analysis of water quality impacts in the RDEIR/SDEIS is also inadequate because the reason for unexpectedly high Delta outflows in September to meet Fall X2 is not explained or justified. The real time operations of the proposed project would likely call for the start of increased flows to begin in August to meet the September Fall X2 requirements (to account for the delayed response between outflow and salinity in the western Delta) and require much less total outflow. The actual water quality impacts in September are likely to be higher than presented in the RDEIR/SDEIS so the real adverse impacts are not fully disclosed. Similarly, excess Delta outflows are being provided by the CALSIM II model in drier years in October which also underestimates the potential adverse water quality impacts in October.

A new Draft EIR/EIS must be prepared that corrects or justifies through detailed modeling and detailed data presentations, the apparent excessive Delta outflows in both September and October which cause water quality impacts to be under predicted. The new Draft EIR/EIS must then be released for public review and comment.

**General Comment – The 1976-1991 period used for the water quality modeling is too short and not representative of (much drier than) the full historical period**

The water quality analyses are only performed and presented for the period October 1975 through September 1991 (16 years). This period contains two major droughts (1976-1977 and 1987-1991) but only the latter is used to represent the water quality changes under drought conditions. When the data are categorized by month and by water year type, the amount of data available to be averaged can be as few as 2-5 months of data. That is not sufficient data to develop a statistically significant representation of the variations by month and water year type.

Also as shown in Figure B-7, the water year 1976-1991 period is considerably drier than the full historical record (1906-2014) and the 1922-2003 period used for the Central Valley operations modeling using CALSIM II.



**Figure B-7:** Cumulative probability distributions of the Sacramento 40-30-30 water year indices for the available historical record (1906-2014), the period used for the CALSIM II operations studies (1922-2003) and the WaterFix water quality analyses (1976-1991). The 16-year period used for reporting water quality impacts is much drier and not representative of the range of variations in the operations studies or historical record.

## Detailed Comments

### Executive Summary

#### *Page ES-3, Line 9*

The RDEIR/SDEIS states that the new WaterFix “sub-alternatives address the reverse flow problem by focusing on the construction and operation of new north Delta intakes and on habitat restoration commensurate with the footprint of these new facilities.” The construction of north Delta intakes only reduces south Delta exports and minimize reverse flows in the south Delta some of the time. The WaterFix sensitivity analysis data show that many other times south Delta exports and reverse flows actually increase. Reverse flows in the south Delta remain significant (e.g., more negative than -2,000 cfs) 55% of the time during the simulation period.

A new Draft EIR/EIS must be prepared that fully discloses in clear, understandable and detailed tables and graphs the actual changes in reverse flows as a result of the WaterFix preferred

alternative. This lack of clarity and transparency has been identified on numerous occasions by the Delta Independent Science Board, most recently in its September 30, 2015 review comments. The new Draft EIR/EIS must then be released for public review and comment.

***Page ES-4, Line 14***

The new WaterFix sub-alternatives, Alternatives 4A, 2D, and 5A, do not “ensure a reasonable range of alternatives.” These new alternatives do not include increased flows in the Delta consistent with the SWRCB’s 2010 Delta Flow Criteria and are unable to capture “new” water during wet periods, so are unable to help achieve the coequal goals or provide the ecosystem improvements necessary to achieve federal and state endangered species act compliance. A new Draft EIR/EIS must be prepared that analyzes and discloses alternatives that will actually achieve the coequal goals, and released for public review and comment.

***Page ES-5, Line 22***

**ES.1.2.2.1 Project Objectives**

The WaterFix preferred alternative fails to satisfy DWR’s fundamental purpose in proposing the proposed project which is “to make physical and operational improvements to the SWP/CVP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations.” The WaterFix project will harm the Delta ecosystem, degrade Delta water quality, and fails to improve water supply reliability for CVP and SWP export contractors. It is also very expensive.

A new Draft EIR/EIS must be prepared that analyzes and discloses alternatives that will actually comport with DWR’s fundamental purpose and help achieve the coequal goals. The new Draft must then be released for public review and comment.

***Page ES-8, Line 33***

The RDEIR/SDEIS states that “the other alternatives evaluated in the RDEIR/SDEIS, Alternative 4A, 2D, and 5A, are evaluated at the Early Long-Term (ELT) timeframe because the project implementation period is anticipated to be shorter.” This is not correct. No full model runs for these three alternatives were carried out and the “brief sensitivity analyses” of water quality impacts that were performed were at late long term (2060 rather than 2025 conditions). The sensitivity analyses were based on flawed Alternative 4 model runs from the BDCP Draft EIR/EIS, never included all the components of the preferred alternative 4A, and most included 65,000 acres of habitat restoration and much greater sea level rise and seawater intrusion.

The RDEIR/SDEIS deceives the public and decision makers by claiming that Alternatives 4A, 2D and 5A were evaluated, and that the evaluation was at early long term. Of particular concern are the tables in Appendix B, Supplemental Modeling Results for New Alternatives that claim to present the water qualities for Alternative 4A for Scenario H3 and H4 at early long term when no full model runs or even sensitivity runs were performed for those cases.

A new Draft EIR/EIS must be prepared that carries out full model runs for the preferred alternative, the other WaterFix alternatives, as well as new alternatives that actually help to achieve the coequal goals. The new Draft must then be released for public review and comment.

***Page ES-9***

**ES.1.3 Areas of Known Controversy**

The RDEIR/SDEIS identifies as one known area of controversy the insufficient range of alternatives. The range and adequacy of alternatives is an issue of concern to the public as well as to governmental agencies. Of the 15 alternatives in the BDCP Draft EIR/EIS, only one (Alternative 9) was substantially different in terms of infrastructure than the others. The others all involved new intakes in the north Delta with an isolated conveyance system linking these 3-5 intakes to the SWP and CVP export pumps in the south Delta. The adverse environmental impacts on aquatic species in the Delta and water quality were not significantly different whether the isolated conveyance was a canal, pipeline or tunnel or whether it followed an eastern or western alignment. The three new “sub-alternatives” added in the RDEIR/SDEIS are very similar to the earlier 14 in terms of intake location and isolated conveyance and again fail to reduce exports during drier months and capture more water when it is surplus to the needs of the Delta in wetter months, or otherwise contribute to achievement of the coequal goals.

A new Draft EIR/EIS must be prepared that includes new alternatives that are substantially different than those already studied, e.g., incorporating new storage, actions to reduce demand on the Delta especially during drier periods, levee strengthening, etc., and fully analyzes and discloses, avoids and mitigates their impacts. The Draft EIR/EIS must then be released for public review and comment.

***Page ES-12***

**ES.1.4.3 Cumulative Impact Analyses**

The RDEIR/SDEIS includes additional reasonably foreseeable proposed projects that, when considered together with the action alternatives, could have a significant cumulative effect. The analysis includes a discussion of the California Water Action Plan, California EcoRestore, and the Sustainable Groundwater Management Act to better describe the roles of the new Delta conveyance facilities and habitat restoration in the context of the state’s comprehensive vision for water management.

The proposed project fails to produce any significant improvement in water supply reliability, degrades rather than improves water quality in the Delta, harms key fish species (BDCP Executive Summary), and otherwise fails to meet the state and federal statutory requirements to contribute to achieving the coequal goals. The California Water Action Plan includes additional actions such as new storage that will be necessary in the future to actually achieve what BDCP was originally intended to do. As such the RDEIR/SDEIS should have analyzed operations of the preferred alternative in the future with new storage, actions to reduce demand, and the long overdue habitat restoration required by the SWP and CVP biological opinions (Cal. EcoRestore).

DWR also indicated, in the BDCP Draft EIR/EIS, its intent to request that the compliance location for the Emmaton standard be moved to Three Mile Slough. The new alternatives do not include this change in compliance location to reduce the significant adverse water quality impacts of the BDCP alternatives, but a future request that this compliance location be shifted is reasonably foreseeable and should also be modeled as a cumulative impact.

The RDEIR/SDEIS also notes that the SWRCB is working on revising its Water Quality Control Plan to increase flows on the San Joaquin River (Phase 1) and in the Delta and the other tributaries. The cumulative impact of these flow increases on the proposed project and the viability of the new intakes and twin tunnels once the increased flows are implemented by the SWRCB must be fully analyzed. A new Draft EIR/EIS that performs these revised cumulated impact analyses must be prepared and released for public review and comment.

### ***Page ES-15***

The RDEIR/SDEIS says their alternative implementation strategy (Alternatives 4A, 2D, and 5A) focuses on the conveyance facility improvements necessary for the SWP to address more immediate water supply reliability needs, and allows for other state and federal programs to address the long-term conservation efforts for species recovery through programs separate from the proposed project. This is further confirmation that the WaterFix proposal is contrary to the 2009 Delta Reform Act because it only attempts to achieve one of the coequal goals.

The new conveyance facilities will not improve conditions for endangered and threatened aquatic species in the Delta. Instead reverse flows in the south Delta will continue, exports from the south Delta will actually increase during drier months, Clifton Court Forebay will remain unscreened, and the new north Delta intakes will harm key fish species (Draft BDCP Executive Summary). Implementing the conveyance facilities alone will exacerbate rather than help resolve many of the concerns with the current south Delta conveyance system. The RDEIR/SDEIS also fails to present any evidence or arguments why implementing new conveyance separately will somehow allow for implementing habitat restoration projects on an expedited schedule through the state's EcoRestore program. These are restoration projects required under the biological opinions that are already long overdue, and there is no guarantee that the funding or will is there to complete these programs.

A new Draft EIR/EIS must be prepared that includes alternatives that address and help achieve both coequal goals and the other inherent State objectives, and released for public review and comment.

### ***Page ES-26***

The RDEIR/SDEIS states that *“the cause of the modeled increases in bromide in Barker Slough, which was driving the impact conclusion for almost all alternatives, is due to the assumptions regarding tidal habitat restoration not due to conveyance facility operations.”* No full model runs were performed for the preferred alternative 4A to support that statement, only brief sensitivity analyses that cannot be depended upon for decision making on a more than \$15



billion project. There are also no full model runs to support the speculation that “*because new alternatives 4A, 2D, and 5A contain a lower acreage of tidal restoration, significant impacts with regard to bromide are not expected under these alternatives.*”

A new Draft EIR/EIS must be prepared that models, analyzes, discloses and avoids or mitigates the impacts of the new alternatives and habitat restoration on water quality in the north Delta. The new Draft EIR/EIS must then be released for public review and comment.

***Page ES-27, Line 16***

The RDEIR/SDEIS speculates that “based on the sensitivity analyses, optimizing the design and siting of restoration areas is expected to be able to reduce EC and chloride increases in Suisun Marsh, relative to Existing Conditions and the No Action Alternative, to levels that would be less than significant.” The brief sensitivity analyses are not full model runs and were not even carried out for the preferred alternative configuration and operations. The CEQA requirement to avoid or mitigate significant adverse impacts requires more than an expectation that as yet specified habitat restoration will not result in significant adverse water quality impacts. The full, albeit flawed, model runs for Alternative 4 clearly indicate the impacts of habitat restoration on water quality at Barker Slough and in Suisun Marsh. The habitat restoration to be done as part of WaterFix and eventually as part of EcoRestore must be analyzed in the environmental documentation from the proposed WaterFix project and disclosed, not piecemealed and postponed.

A new Draft EIR/EIS must be prepared that establishes a best estimate of the habitat restoration under WaterFix, and as part of the Cumulative Analysis for EcoRestore, and full model runs and analysis of the water quality impacts analyzed and disclosed. The new Draft EIR/EIS must then be released for public review and comment.

***Page ES-27, Line 36***

Because Alternatives 4A, 2D, and 5A were not fully modeled for the RDEIR/SDEIS, it is not possible to be certain that they would not result in significant impacts for EC related to objective exceedance in the Sacramento River at Emmaton, or would not result in substantial degradation in the western Delta due to increased chloride concentrations, or would have less adverse water quality effects in the western Delta related to EC, or would have fewer exceedances of the fish and wildlife EC objective between Prisoners Point and Jersey Point. The same applies to speculation regarding bromide concentration impacts at Barker Slough (Page ES-28, Line 18).

The RDEIR/SDEIS contains inadequate information to support this speculation regarding water quality impacts. A new Draft EIR/EIS must be prepared that models, analyzes, discloses and avoids or mitigates the impacts of the new alternatives and habitat restoration on water quality in the western Delta. The new Draft EIR/EIS must then be released for public review and comment.

## **Section 1: Introduction**

### ***Page 1-5, Line 34***

The RDEIR/SDEIS discusses State CEQA Guidelines § 15088.5 which provides examples of disclosure that constitute “significant new information” for purposes of requiring recirculation of a revised EIR. Because the WaterFix RDEIR/SDEIS is so fundamentally and basically inadequate and conclusory in nature, meaningful public review and comment has been precluded. As found by the Delta Independent Science Board (September 30, 2015 review comments), the RDEIR/SDEIS is “sufficiently incomplete and opaque to deter its evaluation and use by decision makers, resource managers, scientists, and the broader public.”

There are also feasible project alternatives considerably different from the two types of alternatives previously analyzed that would clearly lessen the environmental impacts of the proposed WaterFix project, but the project proponents have declined to consider or adopt them. Project components that increase Delta flows to restore and sustain fish populations (2010 Delta Flow Criteria), new storage to allow new water to be captured, stored, and conveyed to the California Aqueduct and Delta Mendota Canal, levee strengthening to protect the Delta and export water supply and water quality, and actions to reduce demand for water from the Delta should have been considered as part of a holistic solution. Most of these are identified in the July 2014 California Water Action Plan which DWR helped prepare, and some are required by the 2009 Delta Reform Act.

A new revised Draft EIR/EIS must be prepared that models, analyzes, discloses and avoids or mitigates the impacts of these feasible project components that will help rather than hinder achievement of the coequal goals. The new Draft EIR/EIS must then be released for public review and comment.

### ***Page 1-20, Line 35***

#### **San Joaquin Delta Estuary Water Quality Control Plan (Bay-Delta WQCP).**

The 2009 Delta Reform Act states that an order by the SWRCB approving any change petitions for the proposed project shall include appropriate Delta flow criteria and shall be informed by the analysis performed in Section 85086 of the Water Code (Cal. Water Code § 85086(c)(2)). The intent of the 2009 Delta Reform Act was that development of the BDCP and WaterFix project alternatives would also be informed by the Delta flow criteria developed by the SWRCB and Department of Fish and Wildlife.

It is not relevant to the environmental review in the RDEIR/SDEIS whether would be fully or only partially responsible for meeting new increased flow requirements, only that the flows in the Delta under the proposed project alternatives be consistent with the 2010 Delta Flow Criteria.

The RDEIR/SDEIS is totally inadequate because it fails to present alternatives compatible with, and including, increased Delta flow requirements consistent with the 2010 Delta Flow Criteria as required by State statutes. The legal reasoning for this is contained in the September 29, 2015

letter from NRDC et al. sent to Tom Howard at the SWRCB<sup>1</sup>. This letter is hereby incorporated into the County's comments by reference.

A new Draft EIR/EIS must be released that analyses and discloses the environmental benefits and impacts of alternatives that incorporate increased Delta flow requirements. The new Draft should then be released for public review and comment.

***Page 1-35, Line 4***

**1.4.2 Additional Alternatives**

The RDEIR/SDEIS states that other than revisions to Alternative 4 and new sub-alternatives, Alternatives 4A, 2D, and 5A, *“no other alternatives are included in the RDEIR/SDEIS because the original 15 action alternatives, along with Alternatives 4A, 2D, and 5A and the no action/no project alternative, meet CEQA and NEPA requirements to present and consider a reasonable range of alternatives to the proposed action.”*

This is completely false. Of those 18 alternatives, only one is substantially different than the other, i.e., Alternative 9 for isolated through-Delta conveyance. The other 17 alternatives are merely variations on the same theme, a Peripheral Canal-like configuration of new intakes in the north Delta on the Sacramento River near Hood, with twin tunnels (rather than a single open channel) to convey the water to Clifton Court Forebay in the south Delta.

The 18 alternatives fail to achieve the coequal goals, fail to contribute to solving California's urgent water and ecosystem problems, and do not enough meet the lead agencies needs. The range of alternatives (i.e., two) is not reasonable and none of the alternatives analyzed are viable.

A new Draft EIR/EIS must be prepared that analyses new viable alternatives that will help achieve the coequal goals. The increased Delta flow requirements in SWRCB alternative (4H3 discussed in Appendix B), or something similar, must be incorporated into at least some of these alternatives. The new Draft must model, analyze, disclose and avoid or mitigate the impacts of these new alternatives. The new Draft EIR/EIS must then be released for public review and comment.

**Section 2: Substantive Draft EIR/EIS Revisions**

***Page 2-6, Line 31***

The sensitivity analyses conducted by the lead agencies are interesting but were performed at late long term (2060) rather than early long term (2025) which is the chosen future reference time for the WaterFix RDEIR/SDEIS. The sensitivity analyses were based on and relative to earlier

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[http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/california\\_waterfix/early\\_petition\\_comments/docs/nrdc\\_obegi093015.pdf](http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/early_petition_comments/docs/nrdc_obegi093015.pdf)

modeling of BDCP Alternative 4 at late long term. This alternative is very different than the WaterFix preferred alternative and the earlier BDCP modeling has been determined to be flawed and the CALSIM II and DSM2 models have since been updated. The sensitivity analyses did not include these updates and corrections.

A new Draft EIR/EIS must be prepared that incorporates full model runs for the alternatives. The statewide importance of the proposed project and high level of controversy requires that the modeling results be disclosed in a new Draft rather than slipped into a Final EIR/EIS leaving little chance for serious regulatory agency and public review and discussion. The new Draft should then be released for public review and comment.

***Page 2-8, Line 19***

The RDEIR/SDEIS states that the *“SWP and CVP operations have relatively little influence on salinity levels at these locations, and the elevated salinity in south Delta channels is affected substantially by local salt contributions discharged into the San Joaquin River downstream of Vernalis.”* This is not correct. The SWP and CVP control operations in the Delta to maintain Delta water quality and they, therefore, control the quality of the water exported to farms in the San Joaquin Valley. Some of this water ends up as agricultural return flows in the San Joaquin River. This is acknowledged on page 8-227 of the RDEIR/SDEIS: *“Chloride concentrations would be reduced under all of the H1–H4 Scenarios in water exported from the Delta to the CVP/SWP Export Service Areas, thus reflecting a potential improvement to chloride loading in the lower San Joaquin River.”* This statement was intended to highlight possible benefits of the proposed project, but also acknowledges that the SWP and CVP do control to some extent the water quality at Vernalis.

The CVP also controls operation of Friant Dam and New Melones Dam on the Stanislaus River, both of which can and should be used to control water quality in the San Joaquin River and at Vernalis. The high salinities in the south Delta and the San Joaquin River downstream of Vernalis are affected by operations of both the CVP and SWP. By maintaining higher Delta outflows and San Joaquin flows (as is being considered by the SWRCB), the CVP and SWP can and should improve the quality of water diverted onto south and central Delta farms and avoid exceedances of the Old River at Tracy Bridge EC objective for the protection of agricultural beneficial uses and the other south Delta agricultural water quality objectives.

The DSM2 water quality model must be revised to better simulate water qualities in the south and central Delta and then be used to analyze new WaterFix alternatives involving increased Delta outflows and San Joaquin flows. A new Draft EIR/EIS should then be prepared and released for public review and comment.

***Page 2-8, Line 2-9***

It is not acceptable to merely anticipate that the new alternatives 2D, 4A, and 5A, will contain much lower acreage of tidal restoration, and therefore the new alternatives will not have significant impacts with respect to EC and chloride in Suisun Marsh. A range of reasonably

expected habitat restoration projects and acreages in the north Delta and Suisun Marsh under WaterFix and EcoRestore must be analyzed using full detailed model runs to quantify and disclose the potential significant adverse impacts to water quality in this region.

A new Draft EIR/EIS must then be prepared and released for public review and comment.

***Page 2-10, Line 1***

Climate change assumptions will alter the timing and magnitude of unimpaired runoff estimates. The RDEIR/SDEIS notes that 3 of the 16 water years in the simulation change their type in the late long term as a result of climate change. However, with the climate change it will also be necessary to change the form of the Sacramento 40-30-30 index. The first 30% represents the April-July runoff due to melting of the snow pack. With less snow pack in the future, that will be less representative of the water supply availability. A smaller percentage, say 20% might be more appropriate. Similarly, with more intense runoff, more flood control storage space will be needed and carryover storage from the previous water year may also be less representative of water supply. The Sacramento index in the future may need to be changed to, say, 60-20-20.

Any classification of wet, normal and dry years in the future should retain the original SWRCB percentages: 30% wet, 20% above normal, 20% below normal, 15% dry and 15% critical.

***Page 2-13***

The RDEIR/SDEIS claims that *“it is now known that the cause of the modeled increases in bromide in Barker Slough, which was driving the impact determinations for almost all alternatives, is assumptions regarding CM4 implementation, not operations in CMI.”* The RDEIR/SDEIS fails to perform full model runs to determine whether this is correct. It is also not sufficient to speculate that *“because the new alternatives (2D, 4A, and 5A) contain a lower acreage of tidal restoration, significant impacts with regards to bromide are not expected under these alternatives.”*

A new Draft EIR/EIS must be prepared that performs full model runs to analyze the range of possible habitat restoration that will occur under WaterFix and EcoRestore to determine the actual water quality changes when restoration is reduced and disclose whether the significant water quality impacts indeed shift from drier years to wetter years. The new Draft EIR/EIS must then be released for public review and comment.

**Section 4: New Alternatives: Alternatives 4A, 2D, and 5A**

***Page 4.1-1, Line 35***

The proposed new WaterFix conveyance facilities will not *“improve conditions for endangered and threatened aquatic species in the Delta while at the same time improving water supply reliability.”* Implementing the conveyance facilities alone will not *“help resolve many of the*

*concerns with the current south Delta conveyance system” and would not “help reduce threats to endangered and threatened species in the Delta.”*

As proposed in the RDEIR/SDEIS, the new dual conveyance system would increase exports in dry periods and fail to regularly capture more water for export in wet months (see Attachment C to this letter). It is therefore completely false to claim that the new conveyance system will “align water operations to better reflect natural seasonal flow patterns by creating new water diversions in the north Delta equipped with state-of-the-art fish screens, thus reducing reliance on south Delta exports.”

A new Draft EIR/EIS must be prepared that honestly assesses, clearly discloses and honestly characterizes the proposed project. The new Draft should then be released for public review and comment.

#### ***Page 4.1-10***

The D-1641 export/inflow (E/I) ratio calculation was designed to protect fish from the significant adverse impacts of the inadequately screened SWP and CVP export intakes in the south Delta. Those impacts include entrainment of fish, drawing fish out of the Sacramento River system into the south Delta, and general ecosystem impacts that result from diverting too much of the inflow to an estuary. The new north Delta intakes will also impact the health of the Sacramento-San Joaquin Delta estuary by diverting inflow that otherwise would be available for fish, to restore water quality and otherwise reduce the impacts of Other Stressors. The SWRCB export inflow ratio must remain as defined in D-1641.

A new Draft EIR/EIS must be prepared that analyze alternatives that comply with the SWRCB’s export/inflow standards as well as the existing Army Corps limits on inflow to Clifton Court and the San Joaquin inflow to export ratios in the biological opinions. Additional full model runs could still be included to disclose individually the impacts to the Delta ecosystem and water quality if those legal requirements were not met. The new Draft must then be released for public review and comment.

#### ***Page 4.2-4, Line 14***

#### **Change in Delta Outflow**

The increase in Delta outflow in September and October in wet and above normal years is primarily due to increased outflow to meet Fall X2. However, as discussed in Attachment C to this letter, the outflows assumed to be required to meet Fall X2 with sea level rise are much higher than existing values. The justification for these high outflows needs to be included in a new Draft EIR/EIS, along with detailed plots of EC at Mallard Island and Collinsville during the Fall for each case. The new Draft must then be released for public review and comment.

**Page 4.2-18 (see also Page 4.3.4-1)**

**4.2.7 Water Quality**

The RDEIR/SDEIS states that: *“In general, the significance of this difference is the assessment of bromide, chloride and EC for the No Action Alternative (ELT), relative to Existing Conditions, likely underestimates increases in bromide, EC, and chloride that could occur, particularly in the west Delta. Nevertheless, there is notable uncertainty in the results of all quantitative assessments that refer to modeling results, due to the differing assumptions used in the modeling and the description of the No Action Alternative (ELT).”*

Because of the statewide importance of developing a Delta solution that achieves both coequal goals, the controversy surrounding the WaterFix project, the extremely high cost of the new intakes and tunnels, it is very important that the models and modeling be refined, e.g., by using daily rather than monthly time steps in the CALSIM II model, and the differing assumptions be reconciled to reduce the *“notable uncertainty.”* A great deal of uncertainty was purposely created by choosing to use *“brief sensitivity analyses”* based on earlier flawed modeling runs instead of performing full model runs.

A new Draft EIR/EIS must be prepared that performs full model runs for all alternatives with refined models. The new Draft EIR/EIS must then be released for public review and comment.

**Page 4.3.4-1**

**4.3.4 Water Quality**

We agree that *“there is notable uncertainty in the results of all quantitative assessments that refer to modeling results, due to the differing assumptions used in the modeling and the description of Alternative 4A and the No Action Alternative (ELT).”* A new Draft EIR/EIS must be prepared that includes full model runs for each alternative. The new Draft EIR/EIS must then be released for public review and comment.

**Page 4.3.4-17, Line 6 (see also Page 4.3.4-17, Line 14)**

The RDEIR/SDEIS speculates that *“sensitivity analyses conducted of Alternative 4 Scenario H3 without restoration areas indicated lower chloride levels in the western Delta than with the restoration areas. It is thus likely that modeling of Alternative 4A that does not include restoration areas would show lower levels of chloride at Antioch in April, and at Contra Costa Pumping Plant #1 in September and October than is shown herein using the Alternative 4 (ELT) modeling.”*

The current RDEIR/SDEIS is woefully inadequate. A new Draft EIR/EIS must be prepared that relies on full revised model runs rather than sensitivity analyses and speculations of what is likely or *“not expected.”* The new Draft EIR/EIS must then be released for public review and comment.

***Page 4.3.4-24, Line 4***  
**Delta**

The RDEIR/SDEIS notes the significant differences between Alternative 4A and the modeling conducted for Alternative 4 in the early long term. The RDEIR/SDEIS also claims “there are several factors related to the modeling approach that may result in modeling artifacts that show objective exceedance, when in reality no such exceedance would occur.

The County agrees with the subsequent statement that: *“The result of all of these factors is that the quantitative modeling results presented in this assessment is not entirely predictive of actual effects under Alternative 4A, and the results should be interpreted with caution.”*

The rush to release the RDEIR/SDEIS without performing full model runs of the new alternatives or correcting the model runs for the earlier BDCP alternatives is unacceptable, inconsistent with good science, and contrary to the requirements of CEQA and NEPA. It is not acceptable to presenting tables of water quality impacts in Appendix B for Alternative 4A at early long term when no such analyses were actually performed.

A new Draft EIR/EIS must be prepared that relies on full revised model runs rather than sensitivity analyses and speculation. The new Draft EIR/EIS must then be released for public review and comment.

**Section 5: Revisions to Cumulative Impacts Analyses**

***Page 5-2***

**5.1.2.2 California Water Action Plan**

The WaterFix and BDCP alternatives do not contribute to achievement of the coequal goals. New alternatives must be developed that incorporate actions outlined in the January 2014 California Water Action Plan, such as *“expand water storage capacity and improve groundwater management.”*

A new Draft EIR/EIS must be prepared that analyses these new alternatives and fully discloses, mitigates or avoids any adverse environmental impacts. The new Draft EIR/EIS must then be released for public review and comment.

***Page 5-2, Line 39***

The RDEIR/SDEIS states that: *“Delta outflow requirements also are considered in the determination of the ability to divert water at the SWP and CVP south Delta intakes to minimize reverse flow conditions. Reverse flow conditions in Old and Middle Rivers occur when exports exceed the amount of inflow from the San Joaquin River. Limiting reverse flows in Old and Middle Rivers reduces fish exposure and entrainment at the south Delta intakes.”*



The WaterFix and BDCP alternatives fail to minimize reverse flows sufficiently to restore and sustain key fish species (see Attachment C to this letter). In addition, the WaterFix proponents propose blocking the head of Old River for extended periods. The significant historical reduction in San Joaquin inflows to the Delta is also a major contributor to reverse flows in the south and central Delta. Blocking what little inflow there is from reaching the south Delta will further exacerbate reverse flows and increase entrainment of fish.

A new Draft EIR/EIS must be prepared that analyses alternatives that will actually minimize reverse flows in all months to protect fish species including not yet threatened resident species. The new Draft must fully disclose, mitigate or avoid any adverse environmental impacts. The new Draft EIR/EIS must then be released for public review and comment.

***Page 5-38***

**Table 5.2.2.1-1. Effects on Water Supplies from Additional Plans, Policies, and Programs Considered for Cumulative Analysis**

The proposed WaterFix preferred alternative will not be viable once the SWRCB has established higher flow requirements in the Delta under Phase 1 and 2. The very expensive new intakes and twin tunnels will not be able to be used as much as assumed in the RDEIR/SDEIS and these facilities will become a stranded asset.

A new Draft EIR/EIS must be prepared that assumes higher SWRCB flow requirements are in place and develop alternatives that are viable under those conditions, and also contribute to achieving the coequal goals, and improving water quality in the Delta. The new Draft must fully model, disclose, and mitigate or avoid any adverse environmental impacts. The new Draft EIR/EIS must then be released for public review and comment.

***Page 5-54 and elsewhere***

The RDEIR/SDEIS makes a number of claims regarding future projects and how they will or will not impact the Delta. Many of these future projects are included in the California Water Action Plan and are necessary components for a sustainable solution to the problems of the Delta ecosystem and California's water supply reliability. The WaterFix alternatives fail to meet the needs of the project and will hinder rather than help meet the needs of California.

New alternatives must be developed that incorporate these necessary elements of a viable solution, such as new storage. The cumulative analysis can instead include other very foreseeable actions such as shifting the compliance location of the Emmaton standard further inland.

A new Draft EIR/EIS must be prepared that includes alternatives that include the portfolio of elements described in the California Water Action Plan and suggested by many commenters on the BDCP. The new Draft must fully model these new alternatives and disclose, and mitigate or avoid, any adverse environmental impacts. The new Draft EIR/EIS must then be released for public review and comment.

***Page 5-78, Line 23***

**Electrical Conductivity**

The RDEIR/SDEIS claims that: *“Implementation of facilities operations and maintenance under these action alternatives, along with Mitigation Measure WQ-11, would not be expected to contribute substantially to this adverse cumulative condition for EC, because no additional exceedance of Bay-Delta WQCP EC objectives would be expected, and substantial long-term degradation with respect to EC would be avoided.”*

Degradation of water quality in the Delta cannot be judged in terms of exceedance of the SWRCB’s Bay-Delta water quality standards. Significant impacts can occur to urban and agricultural water uses even when water quality standards are not exceeded. Farmers in the north Delta, e.g., have developed farming practices and crops that rely on very fresh water. Increasing salinities in this area will have a significant adverse impact on this senior beneficial use, even if SWRCB chloride standards are not exceeded.

The environmental documentation must be revised to acknowledge that increasing salinities (by say more than 5%) can still represent a significant adverse water quality impact.

**RDEIR/SDEIS Appendix A**

***Appendix A, Chapter 8, Page 8-53***

**Real-Time Operations of the SWP and CVP**

The RDEIR/SDEIS states that: *“Environmental conditions arise that cannot be foreseen or simulated in the model that can affect compliance with water quality objectives. These include unpredictable tidal and/or wind conditions, gate failures, operational needs to improve fish habitat/conditions, and prolonged extreme drought conditions, among others. At times, negotiations with the State Water Resources Control Board occur in order to effectively maximize and balance protection of beneficial uses and water rights. These activities are expected to continue to occur in the future. Thus, it is likely that some objective exceedances simulated in the modeling would not occur under the real-time monitoring and operational paradigm that will be in place to prevent such exceedances.”*

The 2009 Delta Reform Act and the State and Federal coequal goal statutes changed the responsibilities of the SWRCB, DWR, Reclamation and other agencies from merely balancing beneficial uses to helping to achieve the coequal goals. The WaterFix RDEIR/SDEIS is inadequate because neither of the two types of alternatives contribute to achieving either of the coequal goals. The SWRCB now has the responsibility of setting higher flow requirements for the Delta and reducing exports from the Delta in drier periods, which will render the new north Delta intakes and twin tunnels virtually inoperable and a stranded asset. The SWRCB permits

for the proposed project should also include terms that stop use of the new north Delta intakes if water quality standards are being exceeded.

It is not sufficient to speculate “*it is likely that*” some exceedances will not occur in reality. The additional flows or reduced exports necessary through real time operations to ensure the objectives are met, will increase exports and reduce flows in subsequent months which could cause adverse impacts that are not disclosed in the RDEIR/SDEIS.

The model analyses performed for the RDEIR/SDEIS environmental documents are so flawed and inadequate that it is also highly likely that actual WaterFix operations will be very different than simulated and other factors such as the amount and location of tidal habitat restoration will have greater adverse effects. It is then highly likely that objective exceedances will occur with the project, despite any real-time operations that might be in place.

The County requests that Delta interests be represented in an official, full voting, capacity, on any adaptive management and real-time operations entities that might be established for the proposed project. This should not be left under the water project and export contractor control.

The RDEIR/SDEIS is inadequate because it fails to analyze and disclose, using actual water quality model runs, the significant adverse impacts of the proposed project and provide reasonable estimates of the frequency of water quality objective exceedances, and disclose how the project will likely operate in real time.

A new Draft EIR/EIS must be prepared that carries out full modeling analyses of alternatives capable of helping to achieve both coequal goals and improve water quality in the Delta. The Draft EIR/EIS should also refine the Real Time Operations Team proposal and other management entities to include a full-voting representative from the Delta Counties and urban and agricultural water agencies in the Delta. The new Draft EIR/EIS should then be released for public review and comment.

***Appendix A, Chapter 8, Page 8-54 et seq.***

The RDEIR/SDEIS uses two methods to estimate chloride and bromide concentrations from DSM2 simulations of EC: Mass-Balance Method; and Regression Method for Chloride and Bromide. The latter approach uses two different regression equations depending upon whether seawater intrusion dominates (typically during low Delta outflow periods) or whether agricultural drainage conditions dominate (typically during wet periods). Sometimes the chloride and bromide concentration are influenced by both sources of salinity.

The DSM2 model can separately simulate the contributions to water quality from different sources of inflow to the Delta (seawater, Sacramento, Yolo, San Joaquin, eastside tributaries, and local agricultural drainage). This is often referred to as “fingerprinting.” The fingerprinting data could be converted for each source using the appropriate EC to chloride regression equation and summed to estimate the chloride and concentrations. That would be more accurate than guessing which regression equation applies at each Delta location.

***Appendix A, Chapter 8, Page 8-67, Line 31***

The RDEIR/SDEIS states: “*Some of the EC objectives are dependent on water year type. It must be noted that 3 of the 16 water years in the simulation change in the late long term, as compared to Existing Conditions, as a result of climate change.*”

Climate change assumptions will alter the timing and magnitude of unimpaired runoff estimates. Because of climate change, it will also be necessary to change the form of the Sacramento 40-30-30 index. The first 30% represents the April-July runoff due to melting of the snow pack. With less snow pack in the future, that will be less representative of the water supply availability. A smaller percentage, say 20% might be more appropriate. Similarly, with more intense runoff, more flood control storage space will be needed and carryover storage from the previous water year may also be less representative of water supply. The Sacramento index in the future may need to be changed to, say, 60-20-20. The classification of wet, normal and dry years in the future should still retain the original SWRCB percentages: 30% wet, 20% above normal, 20% below normal, 15% dry and 15% critical. That will ensure, e.g., that the transition from below normal to above normal actual occurs at the 50-percentile.

***Appendix A, Chapter 8, Page 8-71, Line 30***

The RDEIR/SDEIS states that “*there are several factors related to the modeling approach that may result in modeling artifacts that show objective exceedance, when in reality no such exceedance would occur in reality.*” This is another example of unsubstantiated optimism on behalf of the project proponents. The limited nature of the sensitivity analysis modeling runs and the major flaws in the Draft EIR/EIS runs on which they were based, also means that more exceedances could occur in the future than shown by the sensitivity analyses. Rather than speculating, CEQA and NEPA statutes require that full model runs be performed to identify, disclose, and avoid or mitigate all significant adverse impacts of the project such as degradation of water quality and exceedences of water quality objectives.

A new Draft EIR/EIS must be prepared based on full model runs and released for public review and comment.

***Appendix A, Chapter 8, Page 8-110, Line 21***

The RDEIR/SDEIS correctly notes that “*the timing, location, and specific design of habitat restoration will have effects on Delta hydrodynamics, and any deviations from modeled habitat restoration and implementation schedule will lead to different outcomes.*” A new Draft EIR/EIS must be prepared that makes reasonable estimates of the timing, magnitude and location of habitat restoration to be implement by both WaterFix and EcoRestore and models and discloses the significant adverse impacts of these actions on water quality, fish and other beneficial uses. It is not sufficient to simply argue, e.g., with respect to Barker Slough water quality, that “*the estimates are not predictive of the bromide levels that would actually occur in Barker Slough or elsewhere in the Delta.*”

This comment also applies to other sections within the RDEIR/SDEIS that refer to bromide, chloride and EC concentration increases at certain locations that could be substantial, depending on siting and design of restoration areas. The new Draft EIR/EIS must avoid or mitigate all significant adverse impacts and then be released for public review and comment.

***Appendix A, Chapter 8, Page 8-219***

The RDEIR/SDEIS discusses the effects of site-specific restoration areas proposed under CM4 on bromide concentrations in Barker Slough. The lead agencies state: *“It is anticipated that these efforts will be able to reduce the level of projected increase, though it is unknown whether it would be able to completely eliminate any increases.”* The RDEIR/SDEIS further states: *“If sufficient operational flexibility to offset bromide increases is not practicable/feasible under Alternative 4 operations, and/or siting and design of restoration areas cannot feasibly reduce bromide increases to a less than significant level without compromising the benefits of the proposed areas, achieving bromide reduction pursuant to this mitigation measure would not be feasible under this alternative.”*

If Mitigation Measure WQ-5 (Avoid, Minimize, or Offset, as Feasible, Adverse Water Quality Conditions; Site and Design Restoration Sites to Reduce Bromide Increases in Barker Slough) is insufficient to fully mitigate the significant adverse bromide impacts in the Barker Slough region, additional mitigation measures must be developed and incorporated into a new Draft EIR/EIS.

***Appendix A, Chapter 8, Page 8-225***

**303(d) Listed Water Bodies—Relative to No Action Alternative**

The RDEIR/SDEIS states that: *“Modeling results indicated that monthly average chloride concentrations at source water channel locations for the Suisun Marsh (Appendix 8G, Figures Cl-5, Cl-7 and Cl-8) would increase substantially in some months during October through May compared to the No Action Alternative conditions, but sensitivity analyses suggest that operation of the Salinity Control Gates and restoration area siting and design considerations could reduce these increases. However, the chloride concentration increases at certain locations could be substantial, depending on siting and design of restoration areas. Thus, these increased chloride levels in Suisun Marsh are considered to contribute to additional, measureable long-term degradation in Suisun Marsh that potentially would adversely affect the necessary actions to reduce chloride loading for any TMDL that is developed.”*

It is not sufficient to merely do sensitivity analyses, especially when even the sensitivity analyses indicate that the proposed project will cause significant adverse impacts to water quality in Suisun Marsh. These significant impacts must be avoided or fully mitigated. A new Draft EIR/EIS must be prepared that (a) carries out full model runs of the flows and exports in the Delta and corresponding water quality variations, and (b) incorporates mitigation measures that full mitigate for these avoidable water quality impacts. The new Draft EIR/EIS must then be released for public review and comment.

***Appendix A, Chapter 8, Page 8-227, Line 12***

The RDEIR/SDEIS states that “*chloride concentrations would be reduced under all of the H1–H4 Scenarios in water exported from the Delta to the CVP/SWP Export Service Areas, thus reflecting a potential improvement to chloride loading in the lower San Joaquin River.*” This is an attempt by the project proponents to claim additional WaterFix project benefits. However, it is also an acknowledgement that the SWP and CVP can and do affect water quality in the San Joaquin River and at the south Delta agricultural water quality compliance locations.

A holistic solution to the current acute problems with the Delta ecosystem and California’s water supply must include improved flows in the San Joaquin River, including below Friant Dam, and improvement of water quality in the San Joaquin River and the Delta. Improvements in the San Joaquin watershed should also include new infrastructure to capture storm flows and increase recharge of the severely overdrafted aquifers. Most of these actions are within the control of DWR and Reclamation, and are called for in the January 2014 California Water Action Plan.

A new Draft EIR/EIS must be prepared that includes holistic alternatives that not only address the needs of the export contractors but also work to achieve the coequal goals. The new Draft EIR/EIS should then be released for public review and comment.

***Appendix A, Chapter 8, Page 8-228***

The RDEIR/SDEIS continues to propose water quality mitigation measures that postpone developing and specifying actual mitigation until after the project is completed. There are no commitments on behalf of the lead agencies that any mitigation will actually be implemented. Mitigation Measure WQ-7 (Conduct Additional Evaluation and Modeling of Increased Chloride Levels and Develop and Implement Phased Mitigation Actions) and Mitigation Measure WQ-7c (Consult with Delta Water Purveyors to Identify Means to Avoid, Minimize, or Offset for Reduced Seasonal Availability of Water That Meets Applicable Water Quality Objectives) are open ended and puts much of the onus on the impacted parties.

The significant water quality impacts of the proposed project must be avoided or fully mitigated by the project proponents at no financial or resource cost to the impacted parties. A new Draft EIR/EIS that incorporates measures to avoid or fully mitigate all adverse water quality impacts, and contributes to improvement of water quality in the Delta (Cal. Water Code § 85020) must then be released for public review and comment.

***Appendix A, Chapter 8, Page 8-237***

The revised language in the RDEIR/SDEIS states that: “*As discussed in Chapter 5, Water Supply, Section 5.3.1, Methods for Analysis, under extreme hydrologic and operational conditions where there is not enough water supply to meet all requirements, CALSIM II uses a series of operating rules to reach a solution that is a simplified version of the very complex decision processes that SWP and CVP operators would use in actual extreme conditions. Thus, it is unlikely that the Emmaton objective would actually be violated due to dead pool conditions.*”

*However, these results indicate that water supply conditions could be either under greater stress or under stress earlier in the year, and levels at Emmaton and in the western Delta may increase as a result, leading to EC degradation and increased possibility of adverse effects to agricultural beneficial uses.”*

It does not necessary follow that because the CALSIM II model is not able to handle extreme conditions that exceedances of the Emmaton objective are unlikely. Limitations in the CALSIM II model could result in exceedances being underestimated. Because of the statewide importance of finding a solution to the drastic problems of the Delta and the huge cost of the proposed project, it is imperative that the CALSIM II model be upgraded to better deal with extreme conditions, such as the current drought situation, and to simulate daily rather than monthly time steps. The adverse impacts to agricultural beneficial uses indicated by the results must also be fully mitigated. A new Draft EIR/EIS must be prepared that analyzes project operations using an upgraded CALSIM II model and full model runs for flow and export operations and water quality over the full simulation period, 1922-2003 (or better still, 2014). The new Draft EIR/EIS must then be released for public review and comment.

### ***Appendix A, Chapter 8, Page 8-238***

The RDEIR/SDEIS, in revised language, claims that the brief sensitivity analyses performed indicated that many of the exceedances of the south Delta agricultural standards are modeling artifacts, and modeling barrier installation assumptions consistent with historical dry year practices of installing barriers earlier in the year could resolve these additional exceedances.

The RDEIR/SDEIS also argues that SWP and CVP operations have relatively little influence on salinity levels at these locations, and the elevated salinity in south Delta channels is affected substantially by local salt contributions discharged into the San Joaquin River downstream of Vernalis.

SWP and CVP operations do impact water quality at the south delta agricultural water quality compliance locations. In fact, on page 8-227, Line 12, the RDEIR/SDEIS argues that improvements in the chloride concentrations of water exported from the Delta to the CVP/SWP Export Service Areas reflects a potential improvement to chloride loading in the lower San Joaquin River.

Historical export operations by the SWP and CVP have degraded water quality in the south Delta and that higher salinity water was then exported to farms in the San Joaquin Valley. That, and the failure to maintain instream flows downstream of the CVP's Friant Dam, combined with operation of the CVP's New Melones Dam, has contributed to degraded water quality in the lower San Joaquin River at Vernalis. The salinity of the water diverted onto islands in the south and central Delta by in-Delta farmers is directed affected by seawater intrusion and changes in residence time (controlled by the SWP and CVP) and the quality of the inflow to the Delta at Vernalis (controlled by the CVP and to a lesser extent by the SWP). That influences the salinity of the agricultural discharges back in to the Delta by the in-Delta farmers.

Barrier installations by DWR have not always been able to avoid exceedances of the south Delta water quality standards. The SWP and CVP can control and avoid these adverse water quality impacts by improving water quality generally in the Delta and in the San Joaquin River. The SWRCB's proposed Delta Flow Criteria and Phase 1 and 2 of the revision of the Water Quality Control Plan will help by increasing Delta and San Joaquin River flows. A new RDEIR/SDEIS must be prepared that avoids or fully mitigates the significant impacts to agricultural water quality in the south Delta, and released for public review and comment.

### ***Appendix A, Chapter 19, Page 19-125***

***Mitigation Measure TRANS-1c:*** This section states that to mitigate the transportation impacts of each alternative, project proponents will undertake 'good faith' efforts to enter into mitigation agreements with local jurisdictions to verify the location, extent, timing, and fair share cost to be paid for reducing congestion to the identified roadway segments in the project area. However, the EIR states that "*if an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect (in the form of unacceptable LOS) would occur.*" Details of good faith efforts should be identified to ensure that project proponents sufficiently engage with local jurisdictions when attempting to enter into mitigation agreements.

***Mitigation Measure TRANS-1c:*** The body of this section has strikethroughs through the term 'enhance capacity,' and is replaced with 'reduce congestion,' to incorporate other congestion reduction strategies. However, the title still says 'Enhance Capacity' and should be replaced as well.

### ***General Comments***

Throughout the DEIR, construction activities, congestion, and other impacts are characterized as temporary. However, given the duration of these activities (5+ years), the intensity of the impacts, and the lasting effect on nearby communities, they should be characterized as permanent. (See *Hendler v. United States* for the definition of 'permanent.')

Since activities are considered permanent, the mitigation measures to be implemented should be more permanent in nature. For example, "*Use of flag people or temporary traffic signals/signage as necessary to slow or detour traffic,*" would not be practical as a permanent solution.

Level-of-service (LOS) is an entirely inadequate measure of traffic impacts for this project. Extraordinary in its size and scope, this project would incur major and significant traffic impacts that an LOS analysis alone may not identify. A traffic impact analysis that incorporates other methods in addition to LOS that accurately captures the broader traffic impacts of this project may be more appropriate. (See *Mejia v. City of Los Angeles*, *City of Antioch v. the City Council of the City of Pittsburg*, and *Oro Fino Gold Mining Corporation v. El Dorado County* regarding fair argument for significant impacts vs. established traffic standards.)



In the previous version of the DEIR, it was stated that the project's construction period would be approximately nine years. In Alternative 4A, the duration was changed to five years, but no explanation was given for the drastic shortening of the construction time. It seems unrealistic that a project of this size and complexity could have a construction schedule cut in half without substantial changes or initial errors in the estimate in the schedule. The DEIR should identify the details of the five-year construction schedule and how it was reduced from nine years.

## **Comments from the Previous BDCP DEIR/DEIS that Remain Unaddressed**

### ***General Comments***

The applicant shall include the County early in the planning and design process to coordinate property rights, agreements, and to coordinate this project with the County's adjacent capital improvement projects. DWR must address any impacts that could potentially increase costs or constrain the County's future capital road improvements.

The applicant will be required to execute an agreement, in addition to the road encroachment permit, that specifies the land rights to be acquired as well as fiscal compensation to mitigate for increased cost related to bridge and road maintenance. The agreement should identify work to be completed by DWR to address impacts to County facilities or how the County will be compensated for impacts related to disruption during construction. This includes subsequent impacts after construction related to the constraints of operating roadways over bridges or roadways with significant infrastructure bored under existing roadway improvements. Ample time should be provided to execute this agreement(s).

The agreement should specify the terms related to the use of county land and the California Department of Water Resources (DWR) responsibility for perpetual maintenance and inspection of the bridge structures and associated approaches that lead up to the bridge. The agreement between DWR and the County must specify the agency responsible for the perpetual operation and maintenance of the bridge, including assumption of all liability. If the County will accept perpetual maintenance and ownership, DWR must address the anticipated increase in maintenance cost that will be experienced by the County.

Construction of the bridges and adjacent roadways shall meet County standards and include standard bike lane and pedestrian access that meets the requirements of the Americans with Disabilities Act (ADA). The bridge structures should provide adequate width for ultimate roadway configurations as identified by the Contra Costa County Public Works Department.

### ***Appendix 22B in Appendix A***

Table's 22B-5 through 22B-8 (Appendix 22B) give a full comprehensive list (well over 100 pages) of hundreds of equipment types and their anticipated hours of use for the entire project. However, no information is provided regarding how many of each piece of equipment will be used and where exactly within the Plan Area, other than the type of project they'll be used for

(i.e. control structures, pipelines, forebays, etc.). Without this additional detail it is not possible to identify the impacts of the project and the EIR/EIS is therefore inadequate and incomplete.

***Chapter 19 of Appendix A, Page 19-122 - Mitigation Measure TRANS-1a***

The Traffic Mitigation Program (TMP) required under Mitigation Measure Trans 1-a will be "site-specific," and should consolidate the appropriate information from the referenced tables to indicate; 1) an estimate of how a specific site and transportation infrastructure in the vicinity will be affected, 2) by what types of equipment, and 3) to what degree (duration of days/hours, trips). It would not be reasonable to expect the reader to derive this information on their own based on what is presented in the referenced tables.

***Appendix 3C in Appendix A - Construction Assumptions for Water Conveyance Facilities***

The construction assumptions in Appendix 3C are very broad and do not give an indication as to what degree specific sites will be impacted (i.e. Byron and J4). Again, without this information detail it is not possible to identify the impacts of the project and the EIR is not complete.

***Chapter 19 of Appendix A, Page 19-123, Line 26 - Mitigation Measure TRANS-1a***

The DEIR/EIS Mitigation Measure TRANS-1a includes: *“Plans to relocate school bus drop-off and pick-up locations if they will be affected during construction.”* Altering school circulation patterns would have to be reviewed but would generally only be feasible or reasonable on a temporary basis. Again, 9 years of impacts should be treated as permanent. An “avoid” mitigation measure is the only appropriate measure in this case. Compromising a community fixture such as a school on a longer term basis is entirely inappropriate and unacceptable.

***Appendix 3B in Appendix A - Environmental Commitments, AMMs, and CMs***

Since Appendix 3B does not contain environmental commitments specific to school circulation patterns. Assuming MM TRANS 1-a (develop a TMP) will cover this, consultation with County (Public Works and Conservation and Development Departments), the School District, the County Office of Education, and the Parent Teacher Association will be required in the development of the TMP.

***Appendix A, Attachment 3B, Page 3B-2***

The RDEIR/SDEIS discusses the California Court of Appeal decision in January 2014 known as Lotus v. Department of Transportation. The RDEIR/SDEIS states: *“In general, lead agencies must not simply assume, without analysis, that such project features will be effective in avoiding or minimizing significant environmental effects.”*

Because the RDEIR/SDEIS includes no full model runs for the new WaterFix alternatives, DWR and Reclamation cannot simply assume or speculate about the environmental impacts of the preferred alternative. In addition, the lead agencies cannot assume that eliminating the originally

proposed habitat restoration will eliminate many of the previous significant and “unavoidable” adverse water quality impacts without fully modeling operation of the proposed project with a reasonably foreseeable range of actual habitat restoration projects. The RDEIR/SDEIS acknowledges in a number of places that the eventual placement of the WaterFix, and EcoRestore tidal habitat will greatly affect water quality.

The changes to the environmental impacts of the WaterFix project with full model runs and specific habitat restoration actions will be significant enough, and the statewide importance of the project, warrant preparation of a new Draft EIR/EIS. The new Draft EIR/EIS should then be released for public review and comment.

***Chapter 19 of Appendix A, Page 19-123, Line 33***

“control for any temporary road closure...” Please be aware that the road network in the East Contra Costa Area is limited with little redundancy. Again, independent, secondary project supportive infrastructure may be necessary due to the limited ability of the surrounding area to support this industrial activity.

***Additional Comments***

There are additional roads which the aqueduct will cross that are not discussed in the DEIR. At a minimum, the roads impacted by the project should be listed in the programmatic DIER. In the future, the project specific DEIR should address each road and the associated impact by the project.

The future project specific DEIR should include information on detours and temporary/bypass roadways established during the construction period. The applicant shall provide detour plans and public notices well in advance of any proposed road closures.

The project specific DEIR should include a drainage study to ensure that the aqueduct does not increase flooding in the area.

Delta Road from Main Street (old SR4) to Sellers Avenue is under the jurisdiction of the City of Oakley. Delta Road from Sellers Avenue to Byron Highway is under the jurisdiction of Contra Costa County Public Works Department. Revise all tables and other references to reflect the jurisdictional segments.

All applicable maps should be revised to reflect the location of the Byron Airport.

The project shall comply with the Contra Costa Airport Land Use Compatibility Plan (ALUCP), Countywide and Byron Airport Policies. The basic function of the ALUCP is to promote compatibility between County Airports and the land uses surrounding them. The BDCP proposes an industrial land use, and should demonstrate how the selected project within the Byron Airport Influence Area complies with the aforementioned policies.

***Appendix A, Appendix 8G, Page 8G-1***

**8G.1 Chloride Methodology**

New language in the RDEIR/SDEIS stresses that understanding the uncertainties and limitations in the modeling and assessment approach is important for interpreting the results and effects analysis, including assessment of compliance with water quality objectives. The RDEIR/SDEIS then states that *“in light of these limitations, the assessment of compliance is conducted in terms of assessing the overall direction and degree to which Delta chloride would be affected relative to a baseline, and discussion of compliance does not imply that the alternative would literally cause Delta chloride to be out of compliance a certain period of time. In other words, the model results are used in a comparative mode, not a predictive mode.”*

The RDEIR/SDEIS is inadequate because it fails to perform full model runs for the new alternatives, but also because it uses the results from earlier flawed model runs in a comparative mode. If, for example, the input flows to a CALSIM II run were too high then conditions would be wetter than they should be, changes in water quality due to operations of a new project would be underestimated. This error would then propagate into the subsequent DSM2 model run. There would be less seawater intrusion and a reduction in Delta outflow caused by the new project would have less effect on Delta salinity. Subtracting the with-project run from the without-project run in this case would underestimate the real impacts. Subtracting one erroneous run from another does not necessarily get rid of the inherent modeling errors.

If the DSM2 simulations of EC, chloride and bromide do not comply well with historical data, then the DSM2 model, and if necessary, the CALSIM II model, need to be corrected. If there are errors in the predictions of salinity at Barker Slough or at the south Delta agricultural compliance stations in the base case, looking at the results in a comparative mode will not correct those errors. Similarly, if the Rock Slough or Emmaton standards are exceeded in the base case, the predicted changes in salinity with the project will also be incorrect.

Because of the statewide importance of developing a solution to the Delta problems, it is not good enough to accept these large errors in the model predictions. The models and their input files must be revised, including using a daily rather than monthly time step in CALSIM II to eliminate the problems with standards that begin and end within months. A new Draft EIR/EIS should then be prepared with full updated model runs and released for public review and comment.

***Appendix A, Appendix 8H, Page 8H-1***

The RDEIR/SDEIS states that *“The sensitivity analysis modeling runs were limited to the Existing Conditions, No Action Alternative, and Alternative 4 Scenario H3, but the findings from these analyses can generally be extended to other scenarios of Alternative 4 and the other project alternatives.”* Because the sensitivity analyses were applied to Alternative 4 at late long term, they are not at all representative of the preferred alternative, Alternative 4A, at early long term, which has almost no habitat restoration and significantly less sea level rise and seawater

intrusion. A new Draft EIR/EIS must be prepared that carries out full model runs for Alternative 4A and the other alternatives at early long term and late long term.

The RDEIR/SDEIS also states that “*DWR and USBR have every intention of operating SWP and CVP facilities by fine tuning reservoir storage and exports in real time to meet D-1641 standards, and any changes to D-1641 as adopted by the SWRCB. Actual operations are continuously adjusted to respond to reservoir storages, river flows, exports, in-Delta demands, tides, and other factors to insure compliance to regulatory requirements to the extent possible.*” Because of the failure of the RDEIR/SDEIS to actually model the new alternatives and revise the flawed modeling for the November 2013 Draft alternatives, the proposed project operations could be different than, poorly, presented in the RDEIR/SDEIS. Exports may need to be reduced in a given month and made up in a subsequent month thereby shifting impacts to other more critical months. A new Draft EIR/EIS must be prepared that carries out full model runs for Alternative 4A and the other alternatives at early long term and late long term. The new Draft EIR/EIS must then be released for public review and comment.

***Appendix A, Appendix 8H – Attachment 1, Page 3***  
**BDCP EIR/EIS Water Quality Sensitivity Analysis**

The Draft Technical Memorandum, included as an attachment to the RDEIR/SDEIS, states: “*DSM2 sensitivity runs listed above were simulated at LLT conditions. NAA DSM2 run at LLT accounts for 45 cm sea level rise at the Golden Gate Bridge. Alt4 H3 DSM2 runs at LLT account for 65,000 acres of restoration in addition to the 45 cm sea level rise. Even though the sensitivity analyses were performed at LLT, the factors identified to explain modeled salinity exceedances at LLT are expected to be valid similarly at Early Long-term (ELT) conditions.*”

This speculation is not correct. The late long term conditions in the Delta will include a significant amount of additional seawater intrusion, especially at locations like Barker Slough (as shown by the sensitivity analyses). Comparing two simulations with a lot of seawater intrusion (subtracting one from the other) is very different from comparing two simulations under conditions with significantly less seawater intrusion (i.e., at early long term).

It is also incorrect to claim that “the Lead Agencies have determined that they may reasonably rely on the modeling conducted for Alternative 4 to accurately predict the environmental effects of Alternative 4A” (page 4.2-18).

As was acknowledged in the RDEIR/SDEIS on page 4.3.4-24, “*..... the quantitative modeling results presented in this assessment is(sp) not entirely predictive of actual effects under Alternative 4A, and the results should be interpreted with caution.*”

The result presented in Appendix 8H, Attachment 1, are very interesting but they are no substitute for full model runs. A new Draft EIR/EIS should then be prepared with full updated model runs and released for public review and comment.

## **RDEIR/SDEIS Appendix B**

### ***Page B-1***

The WaterFix preferred alternative (Alternative 4A) includes a new minimum flow criterion at Rio Vista from January through August consistent with Alternative 4. This was apparently required to constrain the CALSIM II simulations from causing unrealistically low flows in the Delta. The SWRCB as part of its water right permitting process will need to include this same minimum flow criterion in the WaterFix permits to ensure that real-time operations also do not cause unrealistically low flows in the Delta and reverse flows in the north Delta that would adversely impact fish.

The RDEIR/SDEIS also states that “Alternative 4A would not include operational elements associated with Fremont Weir modifications as they would be assumed to occur as part of the No Action Alternative as may be required by the existing NMFS (2009) BiOp.” See also the related bullet on page B-2. This needs to be clarified. Does Alternative 4A not include Fremont weir modifications even though they are in the NAA?

A new RDEIR/SDEIS must be prepared that clearly states that the WaterFix real-time operations will also comply with these new proposed January through August Rio Vista flow requirements and whether the Fremont weir modifications will not be made if the WaterFix project is implemented. The new Draft EIR/EIS should then be released for public review and comment.

### ***Page B-3***

The RDEIR/SDEIS states that “*For the Alternative 4A sensitivity analysis Alternative 4 CALSIM II models from draft EIR/EIS were used as is, without including any recent updates to the CALSIM II since the draft EIR/EIS was completed, to remain consistent with the draft EIR/EIS modeling.*”

The environmental analyses and disclosures of impacts in the RDEIR/SDEIS are inadequate because of flaws identified for the earlier BDCP model runs and CALSIM II and DSM2 models, and the failure to include the recent updates to the models and revise the earlier modeling runs. The approach chosen by the lead agencies therefore did not allow any reliable verification of whether the draft EIR/EIS modeling could be used to inform Alternative 4A impact analysis in the REIR/EIS.

A new Draft EIR/EIS must be prepared that carries out full model runs for Alternative 4A and all other alternatives using updated and revised CALSIM II and DSM2 models. The new Draft EIR/EIS must then be released for public review and comment.

## **Appendix F: Supplemental Modeling Results at ELT for 3 Alternative 4 at H1 and H2**

### ***Page F-1***

This RDEIR/SDEIS appendix presents the CALSIM water operations modeling results for Alternative 4 for operational scenarios referred to as “Scenarios H1 and H2” at early long term.

These two scenarios from the BDCP Draft EIR/EIS do not include the Fall X2 requirement in the biological opinions and found by the SWRCB to be necessary to restore and sustain recovery of fish species in the Delta. Recent court decisions confirmed the validity of the USFWS’s biological opinion requirement to meet Fall X2 in wet and above normal years.

It is very difficult to comprehend why the lead agencies, who purport to be developing a project to improve conditions for key fish species, are continuing to promote SWP and CVP operations that do not include Fall X2 operation required under their biological opinions, and would continue to harm key fish species. This is also contrary to the state and federal requirements (Public Law 112-74) to contribute to achieving the coequal goals.

## **RDEIR/SDEIS Appendix G**

### ***Page G-5, Line 31***

#### **G.4.4 Reduce Reliance on the Delta through Improved Regional Water Self-Reliance**

The RDEIR/SDEIS states that “*DWR supports Demand Management Measures (DMM) which are tools to reduce reliance on imported water.*” However, the RDEIR/SDEIS argues that the urban and agricultural water management plans and the water conservation provisions of Senate Bill x7-7 and Assembly Bill 1420 and other programs do not give DWR authority to mandate or impose conservation requirements on suppliers or regional agencies. The current drought emergencies has shown that the State can indeed impose conservation requirements on water users statewide. The 2009 Delta Reform Act requirement to reduce dependence on diversions of water from the Delta means that new Bay-Delta projects, especially WaterFix, must include binding commitments that DWR and Reclamation’s export water contractors will reduce their water uses through water management and conservation actions. It is not sufficient to rely on suppliers becoming ineligible for state water management grant funds to reduce water demand.

A new Draft EIR/EIS must be prepared that includes holistic solution alternatives that include binding commitments for demand reduction and water conservation actions. The new Draft EIR/EIS should then be released for public review and comment.

***Page G-6, Line 34***

**G.4.6 Delta Flow Objectives**

The RDEIR/SDEIS states that “*DWR complies with Delta flow objectives by use of real time operating procedure and will continue to do so into the future when new objectives are set.*” If, as required by the 2009 Delta Reform Act, the SWRCB implements high Delta flow requirements, DWR and Reclamation may not be able to meet these new flow objectives without new infrastructure. The RDEIR/SDEIS is inadequate because it fails to analyze operation of CVP and SWP operations with existing Delta infrastructure and new flow objectives. It also fails to analyze alternatives that would allow the CVP and SWP to meet new SWRCB flow objectives and still meet water delivery goals to CVP and SWP water contractors.

A new Draft EIR/EIS must be prepared that assumes new SWRCB flow objectives will be in place in the immediate future and develops alternatives that are compatible with those new alternatives, e.g., holistic alternatives that include new storage to capture “new” water under high flow conditions in the Delta when flows are surplus to the needs of the Delta. The new Draft EIR/EIS should then be released for public review and comment.



## **Detailed Analysis Of WaterFix Project Impacts based on Water Fix Modeling and Sensitivity Analysis Data**

The Delta Independent Science Board's (ISB) September 30, 2015 letter indicates in no uncertain terms that the BDCP/CWF is "*sufficiently incomplete and opaque to deter its evaluation and use by decision makers, resource managers, scientists and the broader public.*" The Delta ISB also found that the WaterFix RDEIR/SDEIS lacks "*concise summaries integrated with informative graphics.*" Contra Costa County agrees with these findings. The presentation of long-term averages without presentations of individual monthly flows and exports and daily water quality data hides many important details about the way the WaterFix preferred alternative could likely operate and misleads decision makers.

This attachment presents examples of the type of detailed graphics that must be included in the next Draft EIR/EIS, and discusses problems with preferred alternative 4A that these plots reveal. Contra Costa County presented similar attachments in our July 29, 2014 comments on the BDCP Draft EIR/EIS and in early comments to the BDCP proponents. Unfortunately, plots of these types were not incorporated into the RDEIR/SDEIS.

The Delta ISB has asked for over three years, for cogent summaries, clear comparisons, and informative graphics. We agree with the Delta ISB that "*three years is more than enough time to have developed them.*"

The graphical presentations in this attachment illustrate the inconsistencies between how the WaterFix project is portrayed in the RDEIR/SDEIS and how the CALSIM II and DSM2 simulations indicate it will more likely operate. For example neither the BDCP nor the WaterFix alternatives are capable of capturing water in the Delta during periods of high flow. This is not because of the Delta smelt or salmon biological opinions, but because there is no new infrastructure to store and convey the captured water to the California Aqueduct and Delta Mendota Canal. The graphs also indicate times when the computer models fail to meet the SWRCB water quality control plan standards and other regulatory requirements in the Delta.

### **Data Source**

The data presented in this attachment were provided by DWR from the CALSIM II and DSM2 sensitivity analyses. As discussed in this comment letter, the sensitivity analyses do not actual represent the full details of the preferred alternative. The water quality data, in particular, were based on BDCP Alternative 4 at late long term, which included 65,000 acres of habitat restoration, and a shift in location of the Emmaton standard, whereas the preferred alternative 4A is evaluated at early long term (much less sea level rise) and has almost no habitat restoration. No actual full water quality model run was carried out for preferred alternative 4A. The water quality analyses were also only for 16-years which is insufficient to understand the full range of variability of Delta salinities resulting for project operations. Full water quality modeling should have been done for the full 82-year period (1922-2003) used for the CALSIM II operations analyses.

DWR included a Disclaimer with the data that says the DWR released these data as preliminary modeling data and makes no representations or guarantees as to the completeness, accuracy or correctness of the data. DWR further emphasized that sensitivity analyses are not full model runs.

### **WaterFix preferred alternative will increase exports in the driest months when the Delta ecosystem is most stressed**

The California WaterFix proponents claim that one of the benefits of the WaterFix conveyance proposal is that it will reduce the damaging effect of exports from the south Delta on key fish species. There is general agreement amongst Bay-Delta stakeholders that the location of the south Delta export locations (Clifton Court Forebay and the Jones Pumping Plant) cause reverse flows that direct fish toward the export pumps and adversely impact fish populations.

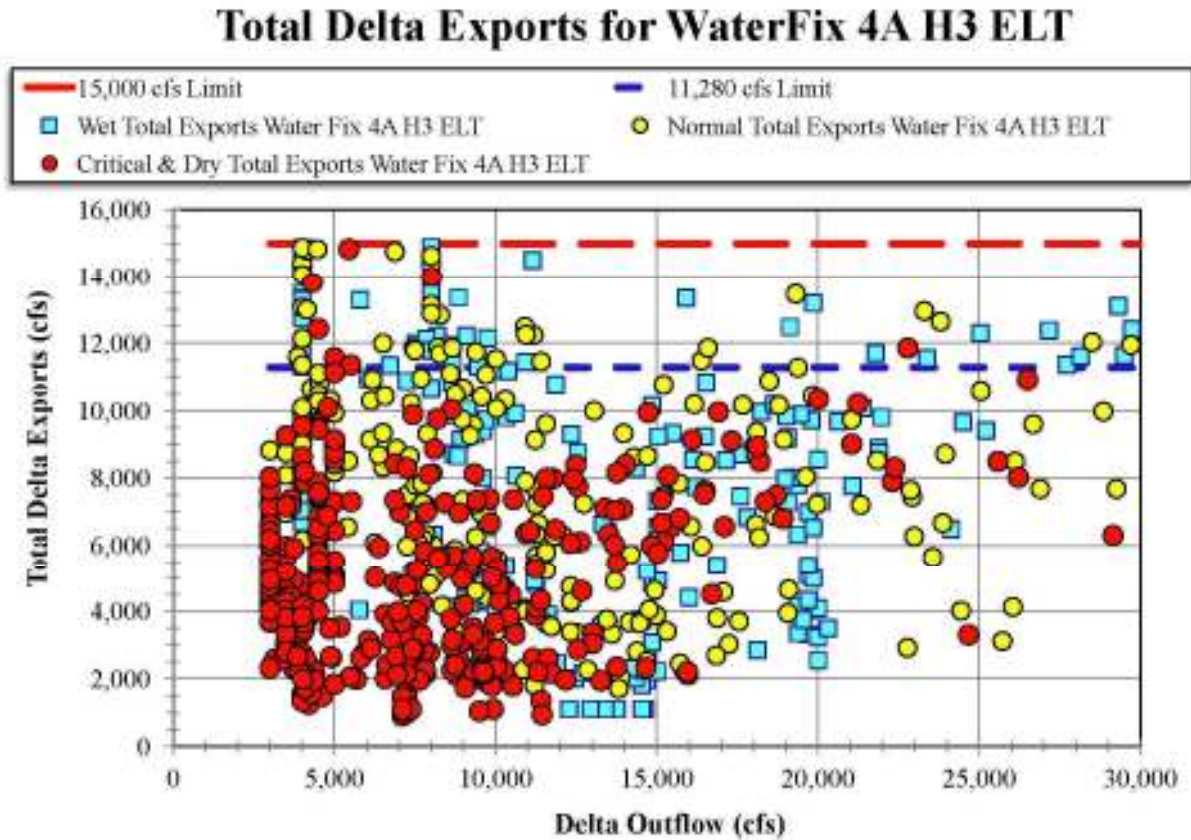
The Bay Delta Conservation Plan (BDCP) and WaterFix proponents also claim that the project will operate according to a Big Gulp, Little Sip principle. This principle was one of the original planning principles of the BDCP Steering Committee (BDCP March 2009 “An Overview and Update”) – *“Divert more water in the wetter periods and less in the drier periods.”*

It is important to realize that “wetter periods” applies to periods of high runoff and high Delta flows, which occur on the order of weeks or months. Wet periods usually occur during the winter and spring. The summer and fall are typically dry periods. There can be wet periods, albeit brief, during dry water years just as there can be dry periods during wet water years.

An inspection of the monthly Delta export data from the WaterFix analyses suggest that neither of these alleged benefits of the BDCP and WaterFix is true.

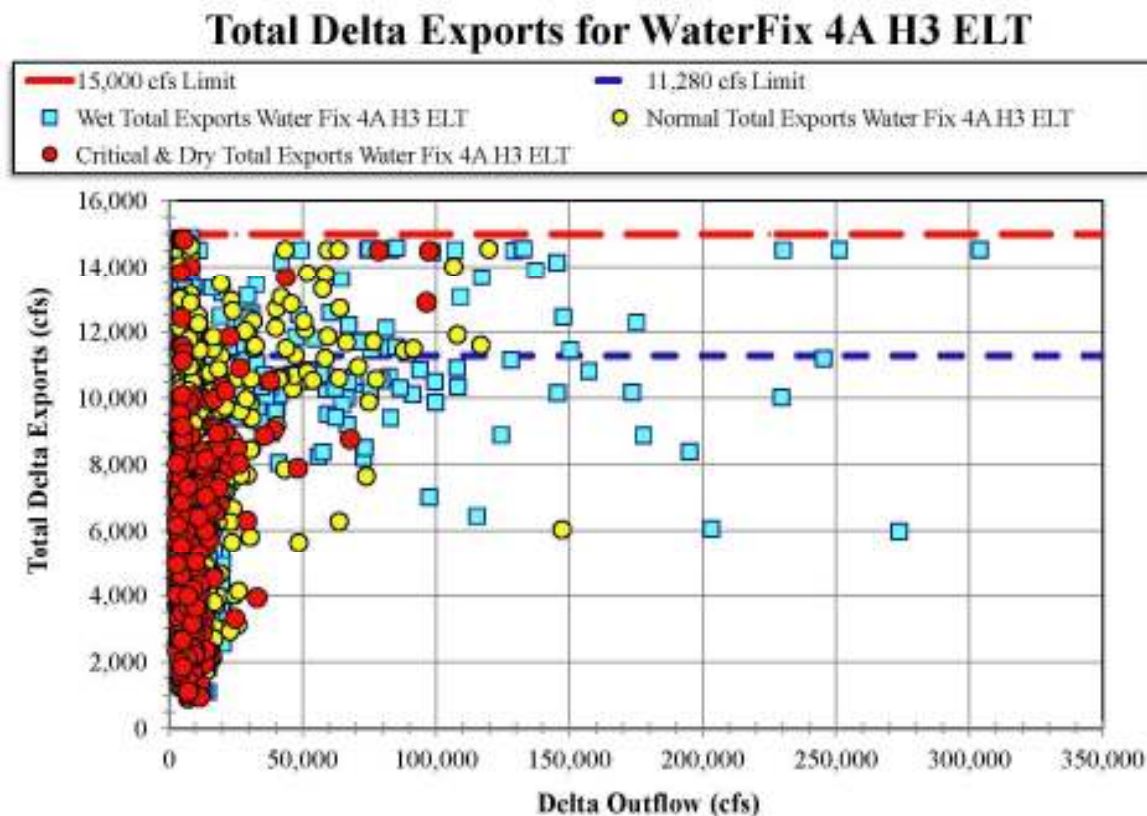
Currently, the maximum rate of exports from the Delta during drier periods is about 11,280 cubic feet per second (6,680 cfs at the SWP export facility plus 4,600 cfs at the CVP pumps.). As shown in Figure C-1, the WaterFix data for Alternative 4A, Scenario H3 at early long term, suggest that in many dry months when Delta outflows are very low, the combined SWP and CVP exports from the south Delta would be as high as 14,900 cfs. This is an increase in south Delta pumping of 3,600 cfs or about 24%.

Rather than diverting less in dry periods and reducing the CVP and SWP’s dependence on water from the Delta, the WaterFix project would increase exports.



**Figure C-1:** Monthly total Delta exports as a function of Delta outflow for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term). Only months when outflows are less than 30,000 cfs are plotted.

The same WaterFix operations simulations show that during periods of high Delta outflow (say 30,000 cfs or greater), when water surplus to the needs of the Delta could be available for export, the WaterFix preferred alternative often fails to increase in export diversions above existing levels (Figure C-2). In other words, without new storage in or close to the Delta, the WaterFix preferred alternative is unable to capture this surplus flow. During wet periods, farmers' fields and urban landscapes are soaked reducing demand for water. The existing south-of-Delta reservoirs fill and there is nowhere else to quickly store the more water. The WaterFix preferred alternative will be unable to regularly take a "Big Gulp."



**Figure C-2:** Monthly total Delta exports as a function of Delta outflow for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term). All the months for the 1922-2003 simulation period are plotted. Without new storage, the WaterFix preferred alternative is unable to regularly capture water during wet periods.

Increasing exports from the Delta in the dry months is in direct conflict with the 2009 Delta Reform Act (Water Code Section 85021), which states that 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. The BDCP proposed project includes no actions to improve regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts.

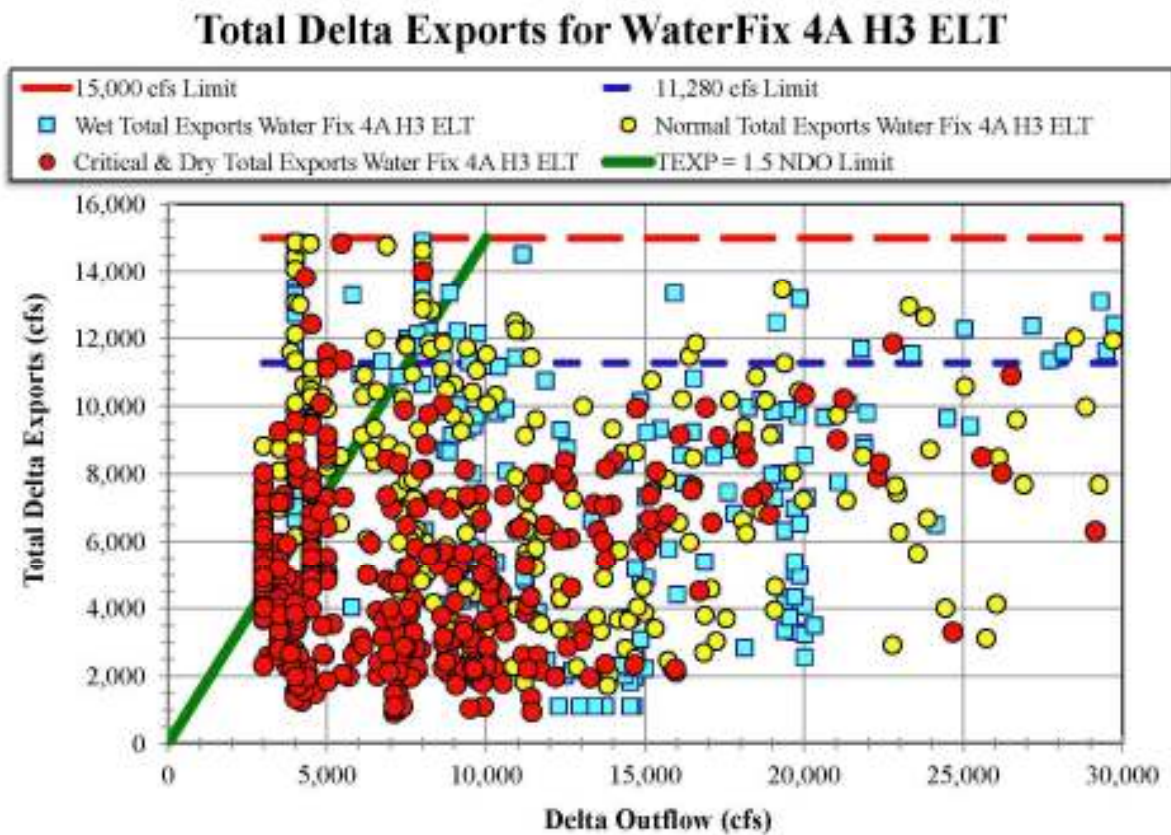
The WaterFix preferred alternative will operate under conditions bracketed by Scenarios H3 and H4. Both include Fall X2 requirements in wet and dry years. Inconceivably, the RDEIR/SDEIS also indicates the lead agencies still desire to operate without Fall X2, i.e., Scenarios H1 and H2, which are analyzed and disclosed in Appendix F of the RDEIR/SDEIS.

To ensure that the WaterFix project actually operates as the lead agencies say it will, and to be consistent with the 2009 Delta Reform Act, it will be necessary for the fish agencies, the

SWRCB, and other regulatory agencies to impose an additional export limit that ensures less water will be exported during the driest periods.

Figure C-3 shows the same data as Figure C-1 but this figure also shows a limit on total CVP and SWP exports of the form: total exports = 1.5 x Delta outflow.

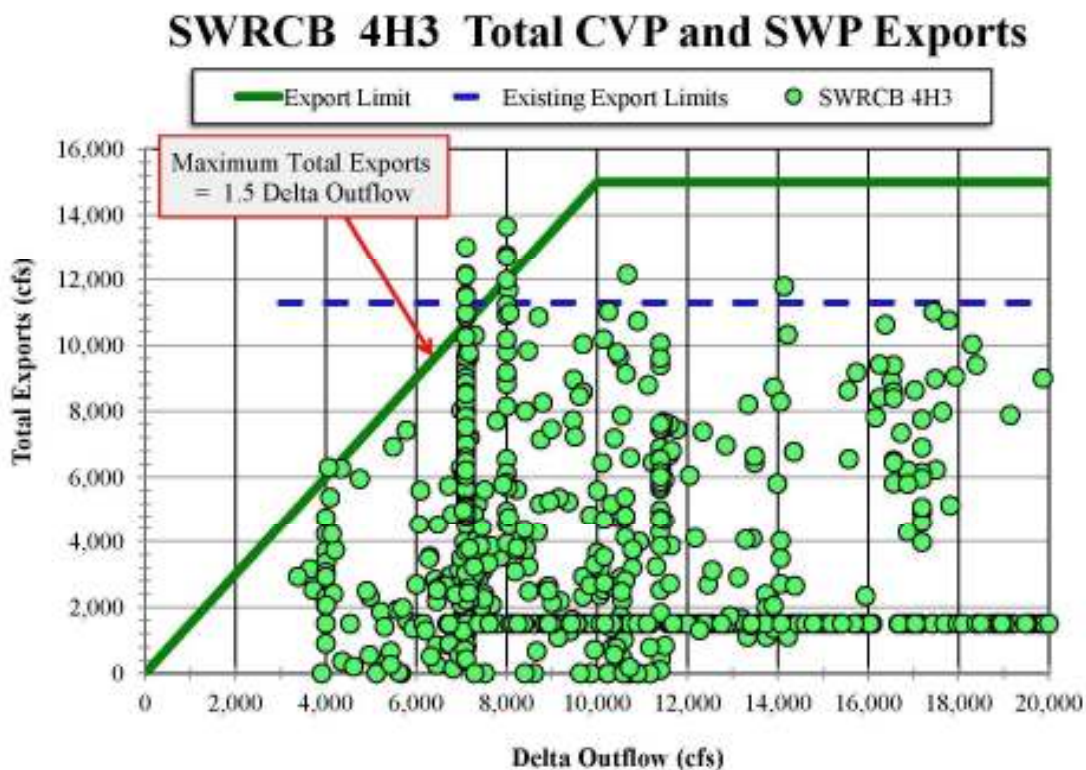
This would mean that in the fall when outflows are only 3,000 cfs, only 4,500 cfs can be exported. The CVP and SWP would not be able to increase exports above existing levels unless Delta outflow was 7,500 cfs or greater. The resulting loss of export water would have to be made up during periods of higher Delta outflow. That will not be possible though without new storage and other infrastructure in the Delta to capture more water during higher flow periods.



**Figure C-3:** Monthly total Delta exports as a function of Delta outflow for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term). The green diagonal line represents a limit on exports to ensure that less water is exported during dry months when Delta outflows are lowest.

According to Appendix C of the RDEIR/SDEIS, the SWRCB requested that an additional alternative be analyzed (4H3) which would be operated to much higher Delta outflow

requirements specified by the SWRCB. Unfortunately, DWR and Reclamation did not modify the WaterFix infrastructure to adapt to these higher outflow requirements so the environmental benefits and viability (with respect to cost and water supply benefits) of a higher Delta flow alternative were not tested and disclosed. It is interesting, however, that the corresponding total exports versus Delta outflow graph for SWRCB Alternative 4H3 shown in Figure C-3 does represent less water being exported in drier periods. The reduced exports in this SWRCB alternative are consistent with the suggested low outflow export limit (total exports = 1.5 x Delta outflow).



**Figure C-4:** Monthly total Delta exports as a function of Delta outflow for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term). All the months for the 1922-2003 simulation period are plotted. Without new storage, the WaterFix preferred alternative is unable to regularly capture water during wet periods.

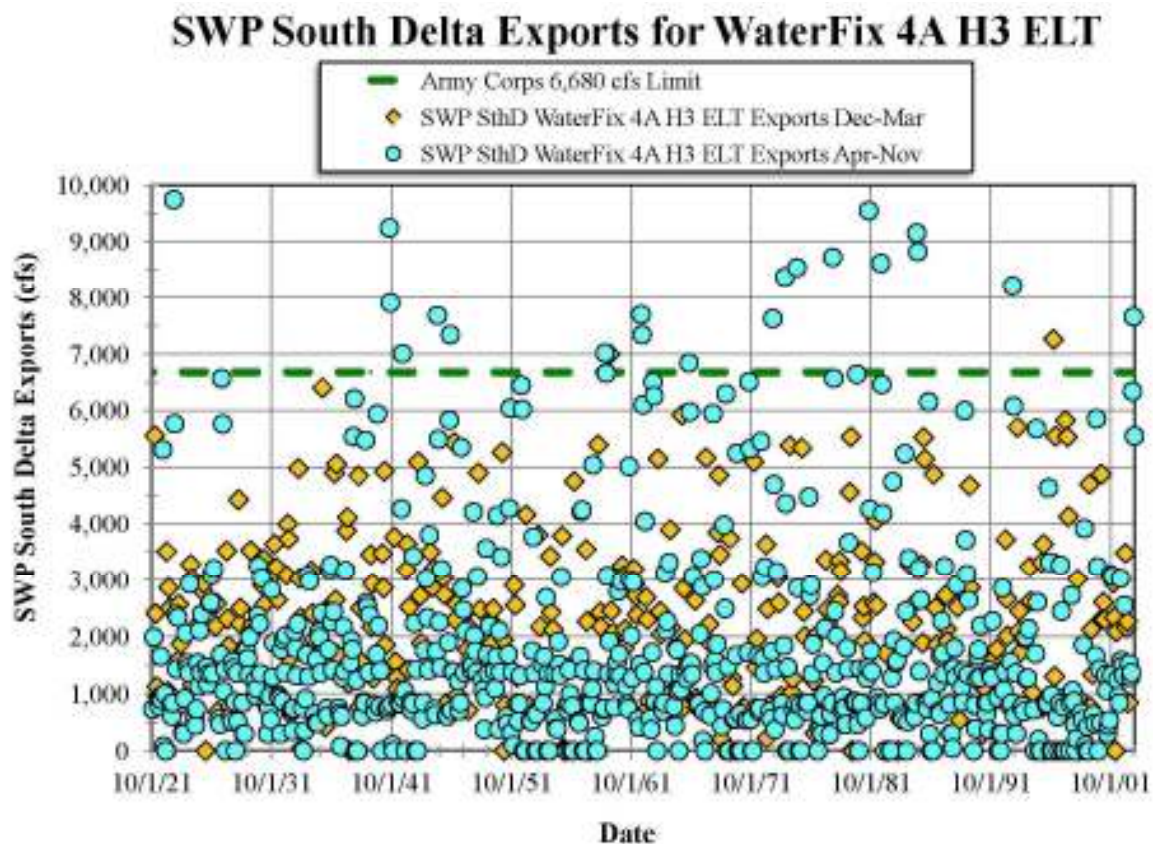
A new Draft EIR/EIS should be prepared that includes more holistic alternatives that reduce exports during drier months (e.g., in a fashion similar to the suggested exports = 1.5 inflow limit) and are able to capture “new” water during periods of high Delta outflow. That would contribute to achieving the coequal goals as well as improving water quality in the Delta. The dismal WaterFix proposal hinders any progress to achieving these goals. The new Draft EIR/EIS should then be released for public review and comment.

### **WaterFix preferred alternative exceeds existing Army Corps limits on inflow to Clifton Court**

A detailed review of the WaterFix sensitivity analysis data for Alternative 4A reveals that the monthly exports from the south Delta exceeded the U.S. Army Corps limits on inflow to Clifton Court Forebay from the south Delta. As described on page 5A-B6 of the BDCP Draft EIR/EIS, the Army Corps limits to daily diversion into Clifton Court Forebay to 6,680 cfs (specified as a three-day average daily diversion of 13,250 acre-feet). Higher inflows are permitted from mid-December to mid-March when the flow of the San Joaquin River at Vernalis exceeds 1,000 cfs. An additional 500 cfs is also permitted for July–September to reduce NMFS biological opinion impacts.

Figure C-5 shows the WaterFix analysis SWP South Delta export data for Alternative 4A, Scenario H3, at early long term, for April through November when the Army Corps limits of 6,680 cfs apply. The simulated inflows to Clifton Court (SWP through-Delta exports) are as high as 9,750 cfs with total south Delta export as high as 14,350 cfs. This is well in excess of the permitted values for this period, and is inconsistent with the WaterFix project claim of ecosystem benefits because exports from the south Delta will be reduced.

The WaterFix RDEIR/SDEIS is inadequate because it fails to clearly disclose to the public and to decision makers like the Army Corps that DWR is proposing to eliminate existing limits on the inflow to Clifton Court, and that the analyses to support the Army Corps application violates that limit.

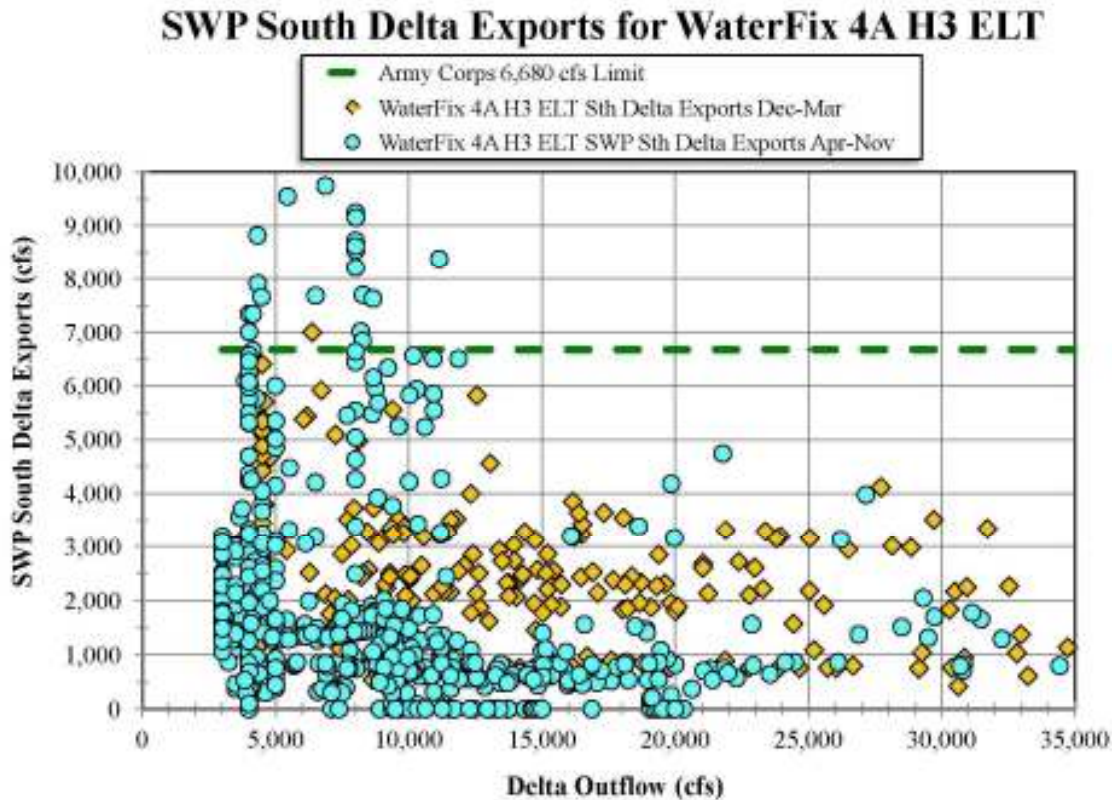


**Figure C-5:** Monthly SWP exports from the south Delta for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term) for the period October 1921 through September 2003. There are many exceedances of the Army Corps limit on inflow to Clifton Court. These were not disclosed in the RDEIR/SDEIS.

Figure C-6 shows the same SWP south Delta export data as Figure C-5, but this time plotted as a function of Delta outflow. The violations of the Army Corps limits occur during drier months when Delta outflows are lower. This is again directly contrary to the principle of taking a “Little Sip” during drier periods, *i.e.*, reducing exports relative to existing levels.

During high outflow periods (outflows > 15,000 cfs), inflows to Clifton Court are well below the maximum permitted inflow.





**Figure C-6:** Monthly SWP exports from the south Delta as a function of Delta outflow for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term). There are many exceedances of the Army Corps limit on inflow to Clifton Court. They occur during periods of lower Delta outflow.

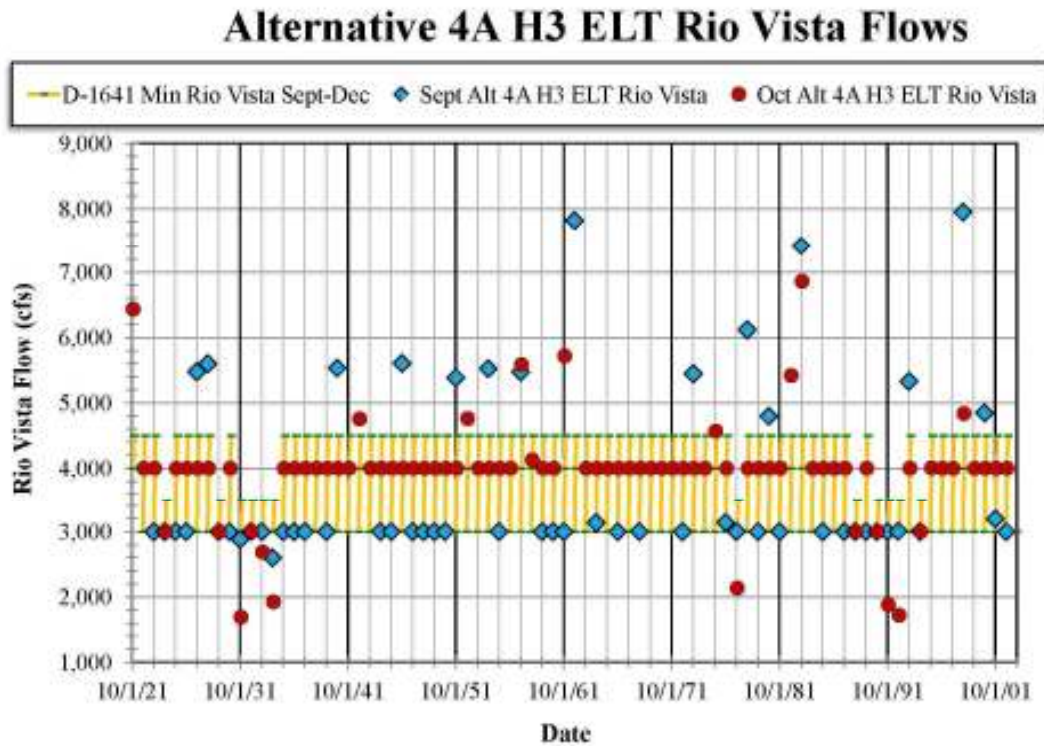
A new Draft EIR/EIS must be prepared that includes new alternatives that comply with the U.S. Army Corps of Engineers limits on inflow to Clifton Court Forebay, and other legal requirements set by the SWRCB and the biological opinion, and released for public review and comment.

### **The WaterFix analyses violate the SWRCB D-1641 minimum Rio Vista flow requirements**

SWRCB Water Rights Decision 1641 requires minimum Rio Vista flows be met in the fall (September through December). As shown in Figure C-7, the monthly Rio Vista flows for September and October for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term) fall well below the D-1641 requirements in a number of the drier years.

DWR and Reclamation's change of point of diversion petition to the SWRCB for the WaterFix project also fails to disclose to the SWRCB that the WaterFix proponents are either proposing to

selectively ignore certain D-1641 standards or that the analyses used to support the petition are flawed and not acceptable for decision making.



**Figure C-7:** Times series of monthly Rio Vista flows for September and October for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term) for water years 1922 through 2003. The CALSIM II model fails to meet the D-1641 minimum flow requirements in a number of drought years.

The WaterFix RDEIR/SDEIS is inadequate because it fails to comply with the SWRCB minimum flow requirements at Rio Vista and fails to clearly disclose these significant violations to decision makers and the public. A new Draft EIR/EIS must be prepared which includes new alternatives that comply with all legal requirements including the Rio Vista minimum flow standards and then be released for public review and comment.

### **WaterFix project does not minimize reverse flows in the south Delta – Large reverse flows remain – OMR sometimes increases**

The discussion of Old and Middle River flows (OMR) in the RDEIR/SDEIS fails to clearly disclose whether reverse flows in the south Delta remain large in some months (*i.e.*, are far from minimized) and whether the WaterFix project will actually increase reverse flows in other months.

Because the new north Delta intakes and isolated conveyance are being promoted as providing ecosystem benefits by reducing the adverse impacts of SWP and CVP exports from the south Delta, the goal of the WaterFix project should be to eliminate reverse flows more negative than, say, -2,000 cfs, in all months.

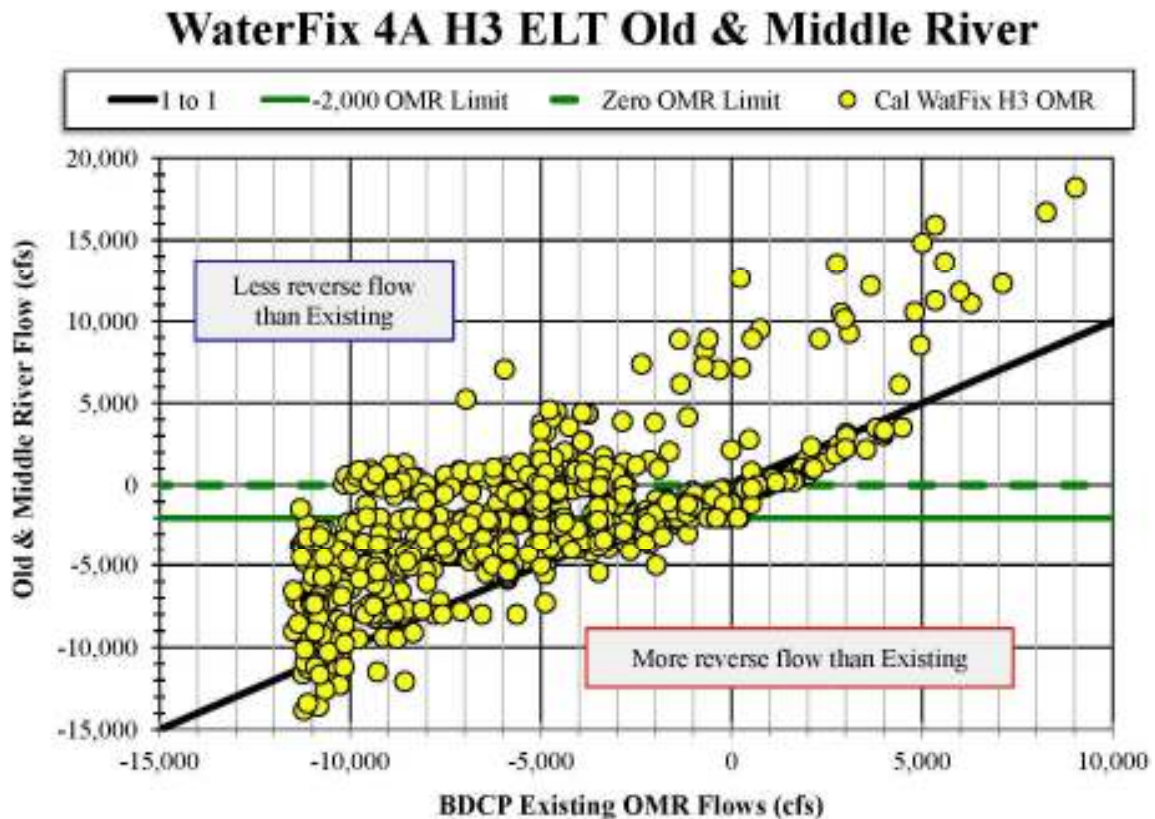
There are resident fish in the Delta all year round that are not yet listed as threatened or endangered. Salvage of other species such as Striped bass, largemouth bass, white cat fish and Mississippi silversides is already large under existing conditions (see Grimaldo et al., "Factors affecting fish entrainment"). This is also likely to be a problem for sturgeon.

[http://swrcb2.swrcb.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/deltaflow/docs/exhibits/sfwc/spprt\\_docs/sfwc\\_exh3\\_grimaldo.pdf](http://swrcb2.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/exhibits/sfwc/spprt_docs/sfwc_exh3_grimaldo.pdf)

It is not sufficient to just improve OMR in a few key months when Delta smelt and other listed species are present and redirect reverse flow impacts to the subsequent months. If the months of July and August are in effect sacrificed with respect to control of reverse flows, the adverse impacts of Delta exports will shift to these two months and possibly September and new fish species are likely to decline. OMR has to be controlled in all months to avoid redirecting serious impacts to these months.

Figure C-8 shows simulated monthly Old and Middle River flows for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term) compared to the OMR flows for the existing basecase, as a scatter plot. Many of the monthly reverse flows are very large in the base case (x-axis) and would remain large even with implementation of the WaterFix preferred alternative with its new north Delta intakes. Some of the existing large reverse flows would get even worse with WaterFix. OMR values of -12,000 cfs in the basecase would worsen to -14,000 cfs and harm resident fish in the Delta. The published claims that the RDEIR/SDEIS and the proposed project will minimize reverse flows are untrue, and could be viewed as disingenuous.

By claiming the north Delta intakes benefit fish by minimizing reverse flows, the BDCP and WaterFix proponents are acknowledging the current level of exports from the south Delta exports adversely impact fish species. For a proposed Bay-Delta project to be able to contribute to meeting the coequal goals and help restore and sustain fish species, the project operating rules will need to effectively eliminate reverse flows in the critical months for the key fish species, but also significantly decrease (not increase) reverse flows in the south Delta in all the other months.



**Figure C-8:** Monthly Old and Middle River flows for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term) compared to the OMR flows for the existing basecase. Reverse flows still remain most of the time even with the proposed north Delta intakes. The most negative reverse flows get even worse with WaterFix.

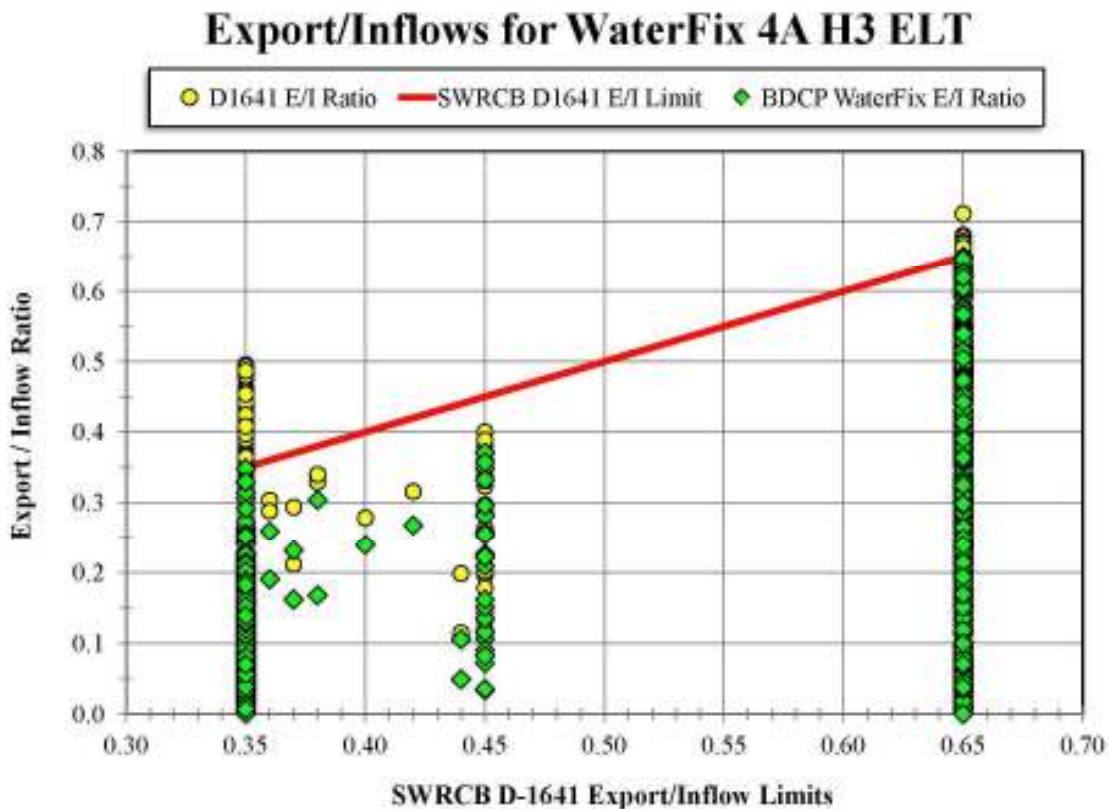
The WaterFix project and RDEIR/SDEIS is inadequate because it fails to minimize reverse flows in the Delta, and fails to clearly disclose these significant adverse impacts on fish in the Delta. A new Draft EIR/EIS must be prepared which includes new alternatives that significantly reduce or eliminate reverse flows and be released for public review and comment.

### **The Water Fix project fails to comply with the SWRCB Water Rights Decision 1641 export/inflow requirements.**

The D-1641 export/inflow (E/I) ratio calculation was designed to protect fish from the significant adverse impacts of the inadequately screened SWP and CVP export intakes in the south Delta. Those impacts include entrainment of fish, drawing fish out of the Sacramento River system into the south Delta, and general ecosystem impacts that result from diverting too much of the inflow to an estuary. The new north Delta intakes will also impact the health of the Sacramento-San Joaquin Delta estuary by diverting inflow that otherwise would be available for fish, to restore water quality and otherwise reduce the impacts of Other Stressors. To restore and sustain the

Delta ecosystem and achieve the ecosystem coequal goal, it is important that the SWRCB export inflow ratio remain as defined in D-1641 and be met.

Figure C-9 shows the RDEIR/SDEIS simulations of monthly export/inflow ratios for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term). The export ratios are computed according to the correct SWRCB Water Rights Decision 1641 definition (yellow circles), as well as the faulty definition used in the RDEIR/SDEIS (green diamonds). During periods when the export/inflow is required by D-1641 to be 0.35 or less, the WaterFix project would export almost 50% more water than permitted (E/I as much as 0.5). During periods when an export/inflow ratio of 0.65 is required under D-1641, the WaterFix preferred alternative E/I ratio is as high as 0.71.



**Figure C-9:** Simulations of monthly export/inflow ratios for the WaterFix preferred alternative (Alternative 4A, Scenario H3 at Early Long Term). The export ratios are computed using according to the SWRCB Water Rights Decision 1641 definition, as well as the definition used in the RDEIR/SDEIS. The ratios are plotted as a function of the D-1641 maximum allowable ratio

A new Draft EIR/EIS must be prepared that analyze alternatives that comply with the SWRCB's export/inflow standards as well as the existing Army Corps limits on inflow to Clifton Court and the San Joaquin inflow to export ratios in the biological opinions. Additional full model runs could still be included to disclose individual impacts to the Delta ecosystem and water quality if

those legal requirements were not met. The new Draft must then be released for public review and comment.

**The WaterFix preferred alternative fails to comply with existing limits on the ratio of San Joaquin inflow to South Delta exports.**

The 2009 NMFS biological opinion sets limits on the ratio of San Joaquin inflow at Vernalis to south Delta exports in April and May. As was discussed in Contra Costa County's 2014 comments on the BDCP Draft EIR/EIS (Attachment F of that comment letter), modeling analyses for the BDCP proposed project failed to comply with this biological opinion requirement.

The RDEIR/SDEIS Appendix 8H, Attachment 1, confirms that the BDCP Draft EIR/EIS Alternative 4 did not include a requirement that the San Joaquin River inflow to export ratio action in the NMFS BiOp be met. However, the flawed BDCP modeling of Alternative 4 was the basis for the brief sensitivity analyses used in the RDEIR/SDEIS.

The RDEIR/SDEIS at page 6-20, Line 12 states: "Reverse flow conditions for Old and Middle River flows would be reduced under Alternative 4 on a long-term average basis except in May in scenarios H2 and H4 and in April and May in scenarios H1 and H3, compared to reverse flows under both Existing Conditions and the No Action Alternative, as shown in Figure 6-23. Compared to flows under the No Action Alternative, Old and Middle River flows would be less positive in April and May under scenarios H1 and H3 because these scenarios do not include inflow/export ratio criteria for the San Joaquin River in those months, although there are other criteria for Old and Middle River flows assumed in these scenarios."

The RDEIR/SDEIS is inadequate because the proposed project and analyses fail to comply with the San Joaquin inflow to export ratio. It is not up to DWR and Reclamation to decide not to bother to meet legal requirements and then fail to disclose these potential violations in the environmental documentation.

A new Draft EIR/EIS must be prepared that includes project alternative that meet all D-1641, and biological opinion and Army Corps inflow limit requirements. The new Draft EIR/EIS must also be clearly written with detailed graphs and tables so that it is clear to the public and decision makers what operating rules apply and whether some of these requirements are being exceeded or otherwise violated. The new Draft EIR/EIS must then be released for public review and comment.

**Recent Contra Costa County Correspondence regarding BDCP and WaterFix**

- 1) Letter to California Water Resources Control Board dated September 23, 2015, regarding “Petition for Change of Point of Diversion submitted by DWR and Reclamation for Cal. WaterFix”;
- 2) Email to John Laird, Secretary, California Natural Resources Agency from Dr. Richard A. Denton, Water Resources consultant to Contra Costa County dated October 8, 2015
- 3) California Water Action Plan and the Cal. Water Fix, dated August 19, 2015
- 4) Major Problems with Cal. WaterFix Preferred Alternative, dated August 19, 2015

Department of  
Conservation and  
Development

Water Agency

30 Muir Road  
Martinez, CA 94553

Phone: 925-674-7824

Contra  
Costa  
County

John Kopchik  
Director



September 23, 2015

Mr. Tom Howard  
Executive Director  
State Water Resources Control Board  
1001 I Street  
Sacramento, California 95814

*Sent via email: tom.howard@waterboards.ca.gov*

Re: Petition for Change of Point of Diversion submitted by DWR and Reclamation for Cal.  
WaterFix

Dear Mr. Howard:

Contra Costa County has reviewed the Petition for a Change of Point of Diversion and of Rediversion submitted by the California Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation) for the California WaterFix project. It is our understanding that the three new points of diversion would be at a different location than the existing Hood diversion point for the earlier Peripheral Canal project. The Petition seeks approval of the operation of three new large water export intakes on the Sacramento River in the vicinity of Clarksburg (Alternative 4A, the preferred alternative in the State's "California WaterFix" project.)

Contra Costa County is bounded on its western, northern and eastern sides by the San Francisco Bay and the Sacramento-San Joaquin Delta, and these natural features are the basis for not only the County's identity and quality of life but also our economic vitality. The availability of good quality water in the Delta is essential for municipal drinking water for the residents of Contra Costa County as well as agriculture, recreation, and industry in this region. As a local agency responsible for land use, flood protection, and other services vital for protecting the Delta, Contra Costa County has a direct interest in any proposed solution to the current problems afflicting the Delta.

Contra Costa County agrees with the detailed concerns regarding this premature and incomplete Petition raised in the letters sent to you by the Local Agencies of the North Delta and Central Delta Water Agency (dated August 31, 2015) and the City of Antioch (dated September 2, 2015).



Mr. Tom Howard

Petition for Change of Point of Diversion submitted by DWR and Reclamation for Cal. WaterFix

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## **Petition misleads public and SWRCB**

The Petition contains claims and statements that are incorrect, mislead the public and the State Water Resources Control Board (SWRCB), or are unrealistically optimistic. This proposed project will not put the State on a course to achieve the coequal goals (as claimed on page 2 of the submission letter). Instead, the Cal. WaterFix preferred alternative will hinder the State's statutory intent to enhance the Delta ecosystem, improve water quality in the Delta, and protect the Delta as a Place. It also fails to increase water supplies for California.

## **Project will not improve conditions in the Delta ecosystem**

The WaterFix preferred alternative would not result in substantially improved conditions in the Delta for threatened and endangered species (bottom of page 2 of the submittal letter). It would continue use of the unscreened Clifton Court Forebay intake and the poorly screened Jones Pumping Plant for half of the future exports of water from the Delta, add new north Delta intakes directly along the migratory pathway of key anadromous fish species, would fail to sufficiently increase flows for fish, and would increase exports from the Delta in the driest months when Delta outflows are very low (i.e., up to 15,000 cfs). The WaterFix project will increase reverse flows in the Delta in some months relative to existing conditions, and OMR values will remain less than -2,000 cfs, 55% of the time (based on a detailed analysis of DWR's monthly CALSIM output data). Even during November-June, the period that the SWRCB's 2010 Delta Flow Criteria Report deemed more critical for regulating OMR, the WaterFix project would cause OMR values less than -2,000 cfs, 44% of the time. The worst OMR with the project is -13,800 cfs which is worse than under existing conditions. In addition, the November 2013 Draft BDCP Executive Summary acknowledged that the direct effect of the north Delta intakes would adversely impact many key fish species.

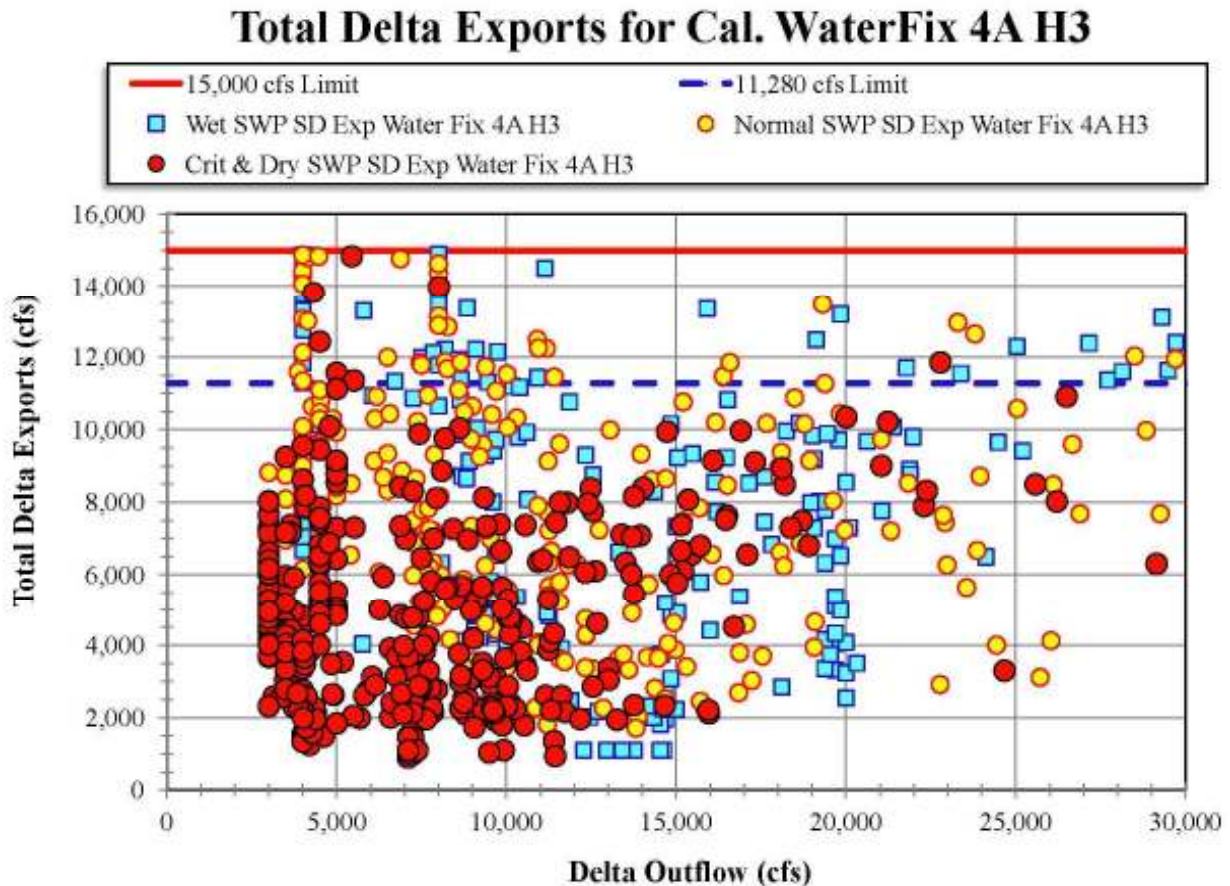
## **Unscreened Clifton Court Forebay still used to export 27% of total exports**

A supposed benefit of the WaterFix project is that south Delta diversions would be replaced by north Delta diversions through state-of-the-art fish screens (page 3). However, the existing intake to Clifton Court Forebay, which would still be used to export 27% of the total south-of-Delta exports would remain unscreened (based on DWR's CALSIM modeling of Alternative 4A, Scenario H3, at Early Long Term). In fact, half of the total exports would still be diverted from the south Delta, including from the inadequately screened Jones Pumping Plant.

## **Project would increase rather than decrease exports during dry periods**

The Cal. WaterFix would not advance the State's water supply goals by improving the ability to capture water during wet years ("Big Gulp") and store it for use during dry years. The key to improving California's water supply is to be able to opportunistically capture water when it is available, i.e., during periods of high, surplus flow in the Delta and upstream of the upstream reservoirs. The focus should be on weeks and months rather than years. Unfortunately, the proposed project fails to capture any significant surplus flow during wet months because it does not include any new storage. Instead it relies on increasing exports from the Delta during dry

months when Delta outflows are very low (Figure 1, below), i.e., by taking advantage of the increase in maximum export capacity from 11,280 cfs under typical flow conditions and the existing Delta infrastructure, to 15,000 cfs with the proposed 9,000 cfs twin tunnels. This is contrary to the 2009 Delta Reform Act (Water Code section 85021) and threatens already stressed fish species.



*Figure 1: Monthly Total Delta exports (isolated facility and through-Delta) as a function of Delta outflow for outflows up to 30,000 cfs. These “sensitivity analysis” data for the California WaterFix Alternative 4A, Scenario H3, were provided to the County by DWR. The plotted data are categorized as (a) wet years, (b) above and below normal years, and (c) dry and critical water years. The Cal. WaterFix alternative 4A (9,000 cfs north Delta intakes plus through Delta) would allow exports up to 15,000 cfs. The existing limit on exports is typically 11,280 cfs. In drier periods (months) when Delta outflows are very low and the Delta ecosystem is stressed, the Cal. WaterFix alternative 4A would at times increase rather than reduce exports. This is the complete opposite of the **Little Sip** concept). These dry period increases occur in all water year types. Even in wet years there are months that can be considered dry, and vice versa. Unfortunately, the Cal. WaterFix preferred alternative also fails to capture much additional water (i.e., export more than existing exports) when Delta outflows are high (the opposite of the **Big Gulp** concept).*

### **Potentially more viable alternatives have not been considered**

DWR and Reclamation have also failed to consider an adequate range of alternatives, as required under Water Code section 85320(b)(2). What California needs is a project that can capture large quantities of water when it is available and truly surplus to the needs of the Delta and Bay ecosystem and water quality. Seventeen of the eighteen BDCP and Cal. WaterFix alternatives are basically the same alternative – north Delta intakes linked to south Delta export pumps by isolated conveyance. There are no components for increasing regional self-reliance, conservation, desalination, and water use efficiency, and no infrastructure to capture and store “new” water during periods of high Delta flow. The South Delta export intakes are bad for the Delta ecosystem but so are north Delta intakes. The Cal. WaterFix project is inadequate because it has failed to seriously analyze the possibility of other locations for new intakes, e.g., in the western Delta.

### **SWRCB requested alternative not given serious consideration**

According to the RDEIR/SDEIS (Appendix C), the State Water Board requested supplemental modeling related to increased Delta outflows (Alternative 4H3). Just because the WaterFix project infrastructure was not sufficient to achieve both coequal goals with these SWRCB-suggested Delta flow requirements does not mean the SWRCB was not on the right track. A new infrastructure alternative capable of capturing and storing water when there is surplus flow in the Delta would be able to support restoring higher flows for fish, improving water quality in the Delta and improving water supply reliability for California. Water Rights Decision 1641 is not sufficiently protective of fish and wildlife beneficial uses (despite the statement on page 11 of the supplemental information) because the populations of key fish species continue to dramatically decline. The statement on page 12 of the supplemental information that “*(f)lows presented by Alternative 4A, beyond those required by D-1641, satisfy appropriate Delta flow criteria to be considered by the Board under 85086(c)(2)*” is also incorrect. Alternative 4A is inconsistent with the urgent need to restore flows in the Delta to sustain the Delta ecosystem.

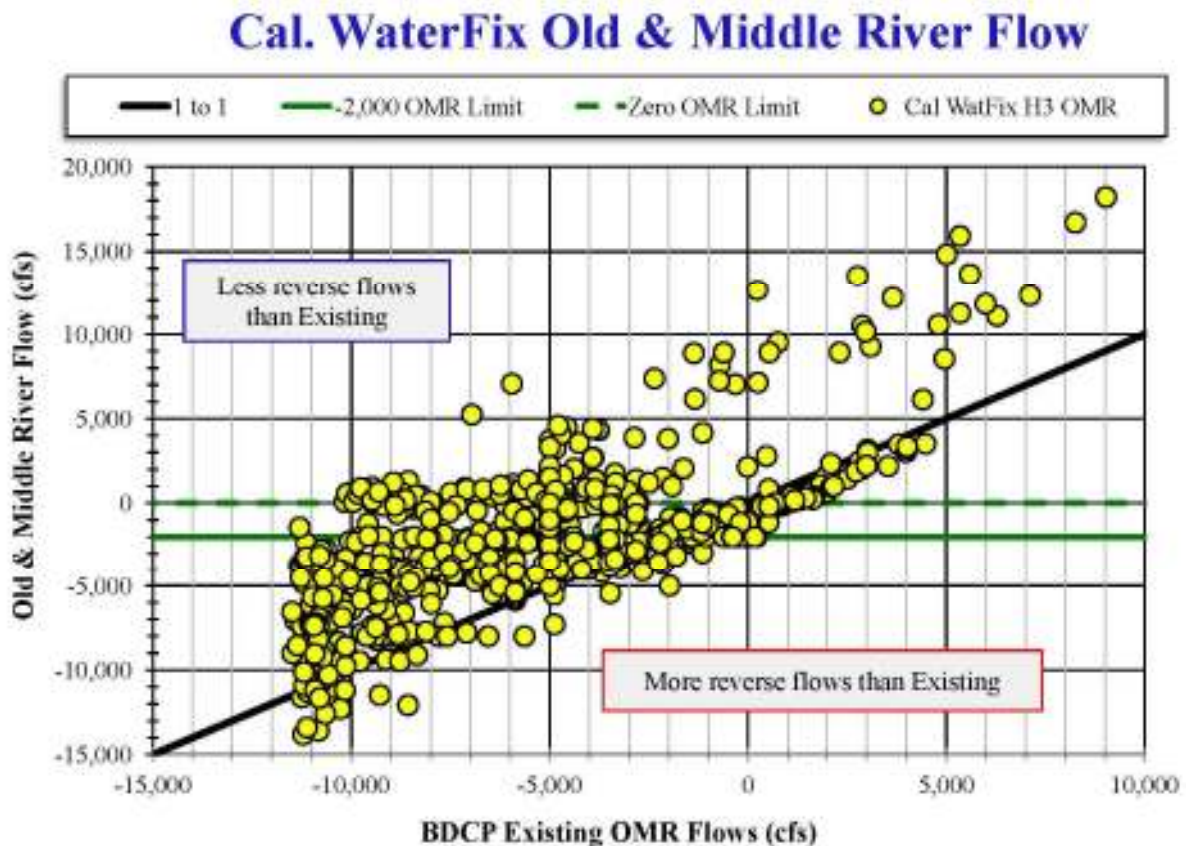
### **Project fails to support State’s comprehensive vision for the Delta**

DWR and Reclamation attempt to justify their WaterFix preferred alternative as an integral part of the state’s comprehensive vision for the Delta (e.g., pages 2 - 4 of the supplemental material). However, the legislation and reports they cite in support of this all call for new storage. The WaterFix preferred alternative does not include any new storage so is unable to capture surplus flows when they are available during wet months. Without additional storage and a conveyance infrastructure to divert and convey the water to new storage within or close to the Delta and then to increased groundwater and surface storage south of the Delta, the WaterFix proposal cannot help achieve either of the coequal goals and will fail to improve water quality in the Delta.

### **Project fails to minimize, and sometimes increases, reverse flows in the south Delta**

DWR and Reclamation suggest that their proposal “*would minimize environmental impacts commonly associated with the SWP and CVP*” by addressing the real problem of reverse flows in the south Delta (pages 4 and 5 of the supplemental information). However, the operating rules of

the WaterFix preferred alternative and continued use of the south Delta export intakes for half of the SWP and CVP alternatives does not minimize reverse flows in the south Delta (see Figure 2 below). Fish are resident in the Delta year round. Salvage of other species such as Striped bass, largemouth bass, white cat fish and Mississippi silversides are already large under existing conditions (see Grimaldo et al., “Factors affecting fish entrainment”). This is also likely to be a problem for sturgeon<sup>1</sup>. The WaterFix project sets OMR limits for some of the year and will redirect impacts to July, August, September and October. Fish that are resident in the Delta year round may not be declining now, but they will if that period is subjected to increased reverse flows because of the WaterFix project.



*Figure 2: Old and Middle River (OMR) monthly flows for Cal. WaterFix Alternative 4A, Scenario H3, compared to monthly OMR data from the BDCP Existing Basecase. A stated benefit of the Cal. WaterFix project is to minimize reverse flows in the south Delta. With the Cal. WaterFix, reverse flows will remain in many months and in some cases get even worse. Even though there are specific months of the year when minimizing OMR is more crucial, there are resident fish in the Delta year round. Unless reverse flows are minimized in all months, the impacts of reverse flows will be redirected to other periods of the year and other Delta fish.*

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### **SWRCB should encourage achievement of the State's coequal goals**

The County encourages the SWRCB to use this opportunity and responsibly contribute to the **achievement** of the coequal goals. In the past, the SWRCB has considered that its role is to **balance** competing beneficial uses. However, this merely perpetuates a lose-lose situation. There is no incentive for DWR to develop projects that create new water if the SWRCB approves projects that merely compete for our existing, limited water supplies. Reclamation is also required to contribute to achieving the State's coequal goals (Public Law 112-74, December 2011).

The 2009 Delta Reform Act has set a new standard for all state agencies to follow to help achieve both co-equal goals, including the inherent objectives of improving water in the Delta. The SWRCB's 2010 Delta Flow Criteria Report established the kind of flow increases and reverse flow reductions that will be necessary to achieve the ecosystem goal. The January 2014 California Water Action Plan, which the SWRCB helped develop, sets out the approach that needs to be taken to develop a sustainable solution to California's water and Bay-Delta ecosystem problems. This approach requires water use efficiency and other demand reduction actions, strengthening Delta levees, as well as new storage to capture and store "new" water, all of which will help to achieve the goal of water supply reliability.

Creating "new" water allows water to be used to increase flows and reduce Delta exports in drier months, while providing more stored water for municipal and industrial and agricultural use, especially during periods of drought. Part of this solution should also be actions to recharge depleted groundwater basins throughout the state, including rerouting flood waters to recharge areas.

The bottom line is that this WaterFix proposal does none of this, and represents a significant step backwards. It will harm the Delta ecosystem, degrade Delta water quality, impact the Delta as a Place and provide very little benefit to California's water supply reliability. It will eventually lead to a very expensive stranded asset, and hinder California's ability to develop a real, sustainable, solution to California's water issues and the effects of climate change.

Contra Costa County asks that the SWRCB take a leadership role in addressing California's water and ecosystem issues. The 9-year WaterFix process has been funded by, and, therefore, led (astray) by the export water contractors, with the lead agencies taking a subservient role.

The Petition that is being considered by the SWRCB should be sent back to DWR and Reclamation with a request that new alternatives be developed and analyzed that can capture new water and get it to new surface and groundwater storage be studied (consistent with Water Code Section 1701.3). These new alternatives need to be compatible with increased flow requirements in the Delta, consistent with the 2010 Delta Flow Criteria and the 2009 Delta Reform Act (Water Code Section 85086(c)(2)). The new alternatives must of course help achieve both coequal goals, while improving water quality in the Delta and protecting the Delta as a Place.

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The SWRCB should also request that any new petition be supported by actual modeling of the proposed project, and not “sensitivity analyses” based on the flawed modeling for the BDCP Draft environmental documents. The modeling data also need to be presented as time series of monthly flows and exports and daily water quality data, and correlations between such parameters as total monthly exports and monthly-averaged Delta outflows so that the SWRCB and other regulators can fully understand how the proposed project would actually operate. For example, the Cal. WaterFix preferred alternative:

- increases exports when Delta outflows are lowest,
- assumes the Army Corps limits on inflows to Clifton Court Forebay no longer apply,
- exports more water by redefining the SWRCB’s D-1641 export/inflow limits (allowing more than 90% of total Delta inflow to be exported in many months), and
- makes reverse flows worse (more negative OMR) rather than better in some months.

None of these major flaws with the preferred alternative are easily discernible from the RDEIR/SDEIS or the modeling data presentations in the RDEIR/SDEIS.

If the SWRCB does decide to continue with the petition process, noticing of the petition and the deadline for submitting protests should be postponed until after detailed modeling of the preferred alternative has been completed and disclosed. We understand that this will not occur until a final, or preferable another revised Draft EIR/EIS, is released.

If you have any questions regarding this letter please contact me at (925) 674-7824.

Sincerely,



Ryan Hernandez

Manager

Contra Costa County Water Agency

Cc: Michael Lauffer, Chief Counsel, State Water Resources Control Board

Sally Jewell, Secretary of Interior

Estevan López, Commissioner, U.S. Bureau of Reclamation

Dan Ashe, Director, U.S. Fish and Wildlife Service

Dr. Kathryn D. Sullivan, NOAA Administrator

Gina McCarthy, Administrator, U.S. Environmental Protection Agency

John Laird, Secretary, California Natural Resources Agency

Mark Cowin, Director, California Department of Water Resources

David Murillo, Regional Director, U.S. Bureau of Reclamation

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Senator Diane Feinstein

Senator Barbara Boxer

Congressman Mark DeSaulnier

Congressman Mike Thompson

Congressman Eric Swalwell

Congressman John Garamendi

Congressman Jerry McNerney

Congressman Jared Huffman

Congresswoman Nancy Pelosi

Contra Costa County Board of Supervisors

John Kopchik, Director, Department of Conservation and Development

**From:** [Richard Denton](#)  
**Sent:** Thursday, October 08, 2015 10:08 AM  
**To:** [john.laird@resources.ca.gov](mailto:john.laird@resources.ca.gov) ; [secretary@resources.ca.gov](mailto:secretary@resources.ca.gov)  
**Cc:** [Karla Nemeth](mailto:Karla.Nemeth) ; [Mark.Cowin@water.ca.gov](mailto:Mark.Cowin@water.ca.gov) ; [Chuck.Bonham@wildlife.ca.gov](mailto:Chuck.Bonham@wildlife.ca.gov)  
**Subject:** Major problems with WaterFix proposal

Dear Secretary Laird,

In your October 6, 2015 reply to the Congressional Representatives, you declined to extend the comment period for review of the Cal. WaterFix environmental document.

I ask instead that please you give serious consideration to immediately withdrawing the Cal. WaterFix RDEIR/SDEIS as well as the petition to the SWRCB and Clean Water Act applications.

The current California WaterFix proposal will not contribute to achieving the coequal goals or solving the serious and urgent problems of the Delta ecosystem and California's water supply reliability. Worse still WaterFix will actually hinder achievement of these coequal goals.

Allowing the export contractors to pay for the BDCP and WaterFix planning efforts has meant that a project of California-wide and national importance has only focused on what are essentially only two alternatives that would only benefit export water quality and fails to even increase export water supplies.

Because the export contractors control spending on the environmental review process, and the existing budget was pretty much spent, the RDEIR/SDEIS was released with no new modeling and only brief sensitivity analyses. As a result, the RDEIR/SDEIS is inadequate for use by decision makers such as the SWRCB, U.S. Army Corps or even the lead agencies. The Delta ISB in its latest comments on the RDEIR/SDEIS found that presentation of the impact analyses is also inadequate and hides actual impacts from decision makers. This is not what the Natural Resources Agency should be helping to support and rush through.

It is important that you, as a key decision maker, understand the serious problems with the current WaterFix proposal and the model analyses and environmental documents that were supposed to support that proposal.

A detailed analysis of the flawed RDEIR/SDEIS modeling data indicates that the project would actually increase exports during the driest months when Delta outflows are very low and the Delta ecosystem is most stressed. The modeling data also indicates that the Army Corps limits on inflows to Clifton Court would be regularly exceeded. The RDEIR/SDEIS and the Army Corps application make no mention of this. Reverse flows in the south Delta are not minimized as the public outreach claims and remain significantly reversed (OMR < -2,000 cfs) 55% of the time. The water quality impact analyses for the RDEIR/SDEIS were unexplainably performed for late long term (2060) conditions rather than early long term (2025). As a result, the greater amount of seawater intrusion (at 2060) masks the actual WaterFix impacts on water quality.



The flawed “brief sensitivity analyses” done to support the RDEIR/SDEIS still show a strong dependence on exports from the south Delta, despite the construction of very expensive new intakes in the north Delta. Strangely, a recently posted WaterFix animation proudly states that most of the exports during dry years will be from the south Delta, i.e., when the Delta is most stressed.

There are many other problems with the RDEIR/SDEIS and too much time will be wasted if you wait till the end of the comment period, and review of yet another round of comment letters, before realizing that WaterFix is way off track.

The 2009 Delta Reform Act requires that the SWRCB develop new Delta flow criteria before BDCP can be approved. Strong legal arguments in support of this statutory requirement are laid out in the September 29 letter from NRDC et al. to Tom Howard. BDCP Alternative 8 and WaterFix Alternative 4H3 demonstrate that the preferred alternative infrastructure will not be viable with these necessary increased flow requirements. Once the SWRCB sets new flow requirements, the north Delta intakes and twin tunnels would become a very expensive stranded asset.

The Natural Resources Agency and DWR must reclaim their leadership role and responsibility to protect Delta water resources and the Delta ecosystem. As outlined in the California Water Action Plan, there are more viable alternatives that need to be considered that incorporate new storage and conveyance to capture and store water during periods of high Delta flow, allow increased Delta flows in all months for fish, as well as actions to reduce water demand and increase local water supply reliability. These alternatives must be given serious consideration, and as soon as possible.

The WaterFix proposal would harm rather than improve the Delta ecosystem and fails to provide any significant increase in water supply reliability. Contrary to State and Federal statutes (2009 Delta Reform Act, Public Law 112-74), it fails to contribute to achieving either of the coequal goals.

The situation in the Delta ecosystem is dire and an effective sustainable solution is needed now. As Interior Deputy Secretary, Michael Connor, said in the September 30 press release regarding the new report on “Challenges facing the Sacramento-San Joaquin Delta,” we must adopt bold, new approaches and any necessary water infrastructure improvements should be accompanied by a portfolio of actions such as water conservation and efficiency measures, habitat improvements, and improved groundwater management and storage.

Just because the BDCP proponents have spent \$250 million on the BDCP and WaterFix planning and environmental documents, and have “put a million hours into it” (Governor Brown, May 6, 2015), does not mean that WaterFix has not gone seriously off track. The last nine years have been largely wasted, with no meaningful stakeholder participation since 2010. It is not too late to do the right thing.

It is time to acknowledge “*the emperor has no clothes,*” and invite wide-spread stakeholder involvement in developing a real solution, one that actually achieves both coequal goals. No one wants the Delta smelt or any other of the key fish species to go extinct on their watch.

Detailed graphs of the WaterFix sensitivity analysis data and other useful documents that highlight serious problems with the WaterFix proposal can be found on the SWRCB WaterFix petition page  
[http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/california\\_waterfix/early\\_petition\\_comments/](http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/early_petition_comments/)

If you have any questions, please call me at (510) 339-3618.

Richard

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**Natural Resources Agency Mission Statement:** To restore, protect and manage the state's natural, historical and cultural resources for current and future generations using creative approaches and solutions based on science, collaboration and respect for all the communities and interests involved.

# **California Water Action Plan and the Cal. WaterFix**

## ***August 19, 2015***

Released January 27, 2014

[http://resources.ca.gov/docs/california\\_water\\_action\\_plan/Final\\_California\\_Water\\_Action\\_Plan.pdf](http://resources.ca.gov/docs/california_water_action_plan/Final_California_Water_Action_Plan.pdf)

### **Agencies Involved**

- California Natural Resources Agency
  - ❖ **Department of Water Resources**
  - ❖ **Department of Fish and Wildlife**
  - ❖ Delta Stewardship Council
- California Environmental Protection Agency
  - ❖ State Water Resources Control Board
- California Department of Food and Agriculture

### **Proposed Actions**

1. Make Conservation a California Way of Life
2. Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government
- 3. Achieve the Co-Equal Goals for the Delta**
- 4. Protect and Restore Important Ecosystems**
5. Manage and Prepare for Dry Periods
- 6. Expand Water Storage Capacity and Improve Groundwater Management**
7. Provide Safe Water for All Communities
8. Increase Flood Protection
9. Increase Operational and Regulatory Efficiency
10. Identify Sustainable and Integrated Financing Opportunities

### **Water Action Plan Conclusions**

- All Californians have a stake in our water future
- This is a path toward reliability, restoration, and resilience in California water.
- Must adapt to this “new normal” and recapture California’s resource management leadership and our economic and environmental resilience and reliability.
- No silver bullets or single projects that will “fix the problem.”

- **Must have a portfolio of actions** to comprehensively address the challenges this state faces.
- Some actions must be taken immediately to address current risks:
  - ❖ looming drought
  - ❖ inadequate safe drinking water
- Over the next five years, must address fundamental changes in our approach to water resource management and be prepared for the changes the future holds.

### **Cal. WaterFix Disconnect From Water Action Plan**

- WaterFix lead agency DWR prepared this January 2014 Water Action Plan with help from DFW
- BDCP and WaterFix have yet to respond to numerous requests from Delta Interests, members of Congress and environmental groups to study a portfolio of actions including additional storage, water conservation, reuse and demand reduction
- DWR's Cal. WaterFix alternatives do not include these crucial Water Action Plan actions
- Water Action Plan calls for restoration of important ecosystems – WaterFix would restore minimal Delta habitat as mitigation for its adverse impacts on species– Cal. EcoRestore only restores 30,000 acres of habitat, most of which is already required to mitigate past and present impacts and is long overdue
- Delta interests have a key stake in California's water future but have not been included in development of BDCP or Cal. WaterFix, or in BDCP governance proposals

## **Major Problems with California WaterFix Preferred Alternative**

*August 19, 2015*

- Fails to achieve either of the co-equal goals
  - ❖ Will only restore a minimal amount of Delta habitat in an attempt to mitigate the adverse project impacts
  - ❖ Fails to deliver any increase in water supplies
  - ❖ These are state and federal obligations under the 2009 Delta Reform Act and Public Law 112-74, respectively
- DWR and Reclamation have allowed the export water contractors to develop a flawed project design that only benefits the exporters
  - ❖ Agreed to export contractors' offer to pay because of state and federal budget crises
  - ❖ Those who pay the bills run the business
- DWR and Reclamation have failed to consider or analyze a reasonable range of alternatives
  - ❖ No programs for increased regional self-reliance, conservation, desalination, and water use efficiency.
  - ❖ No infrastructure to capture and store "new" water during periods of high Delta flow
  - ❖ No analysis of new intakes in the western Delta instead of the north Delta
  - ❖ The 17 of the 18 BDCP and Cal. WaterFix alternatives are basically the same alternative – north Delta intakes linked to south Delta export pumps by isolated conveyance
- New North Delta intakes will adversely impact key fish species by reducing inflows to the Delta and causing reverse flows – just as bad as the south Delta intakes.
- South Delta intakes will still be used for 51% of the total exports
- Significant adverse water quality impacts in the BDCP Draft EIR/EIS have been assumed away
  - ❖ Assume Emmatton compliance location will not be changed, but still intend to change it in the future (piecemealing under CEQA)
- Cal. WaterFix preferred alternative would increase exports in dry periods when Delta fish are most stressed, and would fail to capture more water when Delta flows are high

- No new detailed modeling has been done for the Draft REIR/SEIS despite significant changes
  - ❖ Greatly reduced ecosystem restoration so major changes in relationship between outflow and salinity
  - ❖ No longer asking for compliance location for Emmaton water quality standard to be changed
  - ❖ Relied instead on Operations and Water Quality modeling for draft BDCP EIR/EIS which contained major errors
  - ❖ Used crude sensitivity analyses based on Late Long Term (2060) studies to estimate Early Long Term (2025) impacts
  - ❖ CEQA requires, and \$15 billion cost demands, detailed modeling of each alternative
- Proposed \$15 billion Cal. WaterFix project likely be rendered obsolete once the State Water Resources Control Board adopts more stringent flow requirements to protect fish and other beneficial uses
  - ❖ Full capacity of tunnels was seldom used under BDCP operational rule assumptions
  - ❖ North Delta intakes would be used even less frequently once flow requirements and export limits are made more stringent
  - ❖ A completely different alternative, as yet ignored by the BDCP proponents, would likely prove more viable

## **Bottom Line**

DWR and Reclamation need to step up and promote alternatives that actually achieve both coequal goals and will benefit all of California rather than merely facilitating a flawed WaterFix project being proposed and paid for by the export contractors.

Adding new storage to capture water in wet periods when it is available, and adding demand reduction and local water supply projects discussed in the California Water Action Plan (January 2014) could result in a project that meets the needs of all of California, not just the export water contractors.

The new alternative requested by the State Water Resources Control Board (RDEIR/SDEIS Appendix C, page C-1) looks like a good starting point for developing a real Delta Fix that restores and sustains the Delta and Bay ecosystem and improves California's water supply reliability.