

BDCP/WaterFix Comments
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October 28, 2015

Thank you for the opportunity to comment on the Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS).

Friends of the San Francisco Estuary (Friends) has reviewed the RDEIR/SDEIS for changes that address and correct the inadequacies noted in our July 29, 2014 comment letter on the Public Draft of the Bay Delta Conservation Plan (Draft Plan) and its associated draft Environmental Impact Report/Environmental Impact Statement (DEIR/S) and Draft Implementing Agreement (Draft IA). The RDEIR/SDEIS also includes some new analyses that are addressed below; however, the additional information does not improve the serious flaws of the plan. Friends is deeply concerned that, if implemented, this plan will fail to improve the degraded state of the Bay-Delta Estuary.

It is our recommendation that the project proponents develop a Water “Fix” that better balances protection and restoration of the ecosystem with reliability of water supply, as commanded by state law.¹ Under the Preferred Alternative (4A), water quality and water supply reliability improve for the State Water Project and Central Valley Project water users at the expense of threatened and endangered species and other beneficial uses of the San Francisco Bay and Delta. These negative impacts, in some cases, have been arbitrarily deemed insignificant by the RDEIR/SDEIS authors without clear scientific basis; in other cases, science has been selectively used to support determinations of no adverse or significant impact. Overall, as noted by the Delta Independent Science Board, “The Current Draft lacks key information, analyses, summaries, and comparisons. The missing content is needed for evaluation of the science that underpins the proposed project. **Accordingly, the Current Draft fails to adequately inform weighty decisions about public policy**” [emphasis added].²

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This letter transmits our comments on those sections of the RDEIR/SDEIS that relate to our July 29, 2014 letter. Relevant comments from the July 2014 letter are summarized as follows:

- 1. The Draft Plan does not improve Delta outflows over current degraded conditions.**
- 2. The Draft Plan may contribute to significant declines and potential extinction of several salmon runs and other native fisheries.**
- 3. Impacts to areas downstream of the Plan Area, e.g., San Francisco Bay, are potentially significant and must be analyzed in the DEIR/S.**

¹ Delta Reform Act, Chapter 2, Section 85320.

² Delta Independent Science Board, p. 4.

- 4. Certain water quality impacts within the entire Bay-Delta Estuary have been determined to be significant and unavoidable, yet no mitigation is proposed for these impacts.**
- 5. The Draft Plan does not make an equitable commitment to the co-equal goals required under Delta Reform Act.**
- 6. The BDCP does not reduce reliance on the Delta, as mandated by state law.**

1. The Draft Plan does not improve Delta outflows over current degraded conditions.

As noted previously, state and federal regulatory agencies have acknowledged that Delta outflows provided by current operations and water quality plans are not adequate to maintain, recover or restore ecosystem processes and declining fish species in the San Francisco Bay-Delta Estuary. The large-scale alterations to freshwater flows affect the quality and quantity of low-salinity habitats essential to fisheries in the Estuary, the movement of sediment through the system, and the productivity of food webs. The recently released State of the San Francisco Estuary Report states that “Freshwater flows from the Delta to the Bay for most of the last 35 years (since the 1980s) have been poor, impacting the estuarine ecosystem and the plants and animals that depend on it.”³ The previous preferred alternative did not address this problem, nor does the revised Alternative 4A, also known as the California WaterFix (CA WaterFix). The new Alternative 4A in the RDEIR/SDEIS maintains or even increases State Water Project (SWP) and Central Valley Project (CVP) exports over current export levels: “Delta exports and SWP and CVP deliveries south of the Delta would increase under BDCP Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 2D, 3, 4 (H1-H4), 4A, 5, 5A, and 9 as compared to Existing Conditions and No Action Alternative.”⁴ A plan to increase exports fails to improve the current degraded conditions that result from inadequate freshwater flows through the Estuary.

In addition, the RDEIR/SDEIS makes the presumption that the north Delta diversions of the CA WaterFix will not be subject to the current Export:Inflow ratio, by appearing to exclude the proposed diversion points from the measurement of Delta inflow.⁵ The quantity of freshwater flows from the Delta to the Bay is effectively determined by the Export:Inflow ratio. The Export:Inflow ratio places limitations on the amount of water that can be exported by the SWP and CVP based on a fraction of Delta inflows; the redefinition of this ratio by the plan proponents results in significantly higher exports while appearing to comply with D-1641 standards.⁶ The RDEIR/SDEIS must be revised to comply with D-1641 standards by including the north Delta diversions in the Export:Inflow ratio.

A higher Delta outflow scenario has been modeled and analyzed at the request of the State Water Resources Control Board (SWRCB). The SWRCB requested supplemental modeling from the plan proponents in order to evaluate a higher Delta outflow scenario than is offered by Preferred Alternative 4A. Analysis of this scenario showed more favorable conditions for Delta smelt and longfin smelt habitat, a shift of pelagic fish away from the export pumps, better conditions for out-migrating salmonids, and benefits to native estuarine species that have evolved under conditions of seasonally fluctuating salinity. The higher outflows in winter would push fresh water through the Delta and into San Francisco Bay, to the benefit of Bay ecosystems. Additionally, the specified quantity of Delta outflow in summer could provide for adaptive management of Delta smelt when a strong cohort is present.⁷ In other words, this outflow scenario provides substantial improvements to public trust resources that Alternative 4A fails to provide. The speculative statement that “an alternative that included this operational scenario would likely

³ San Francisco Estuary Partnership 2015.

⁴ RDEIR/SDEIS, Chapter 5, p. 5-8.

⁵ RDEIR/SDEIS, Chapter 4, p. 4.1-10.

⁶ Denton 2015.

⁷ RDEIR/SDEIS, Appendix C, p. C-2.

not meet the project objectives or purpose and need statement”⁸ is not sufficient justification to fail to develop an alternative with the potential to provide both water supply and ecosystem benefits, as called for by the Delta Reform Act.

The results of this supplemental modeling showed a scenario that produces both higher Delta outflows and yields better average end-of-month storage in California’s major reservoirs, even under the impacts of climate change. Results showed substantially higher long-term average end-of-month storage for Lake Oroville in all water year types, slightly higher for Folsom Lake, and approximately the same for Lake Shasta and Trinity Lake. This provides benefits to both fish and people under the more frequent drought conditions expected in the future. As the current drought has demonstrated, a portfolio of other methods exist to replace the lower Delta exports. This higher Delta outflows approach also achieves the goal of reducing reliance on the Delta. This should be developed into a project alternative, incorporating other methods—both existing and proven but not yet implemented technologies—to provide water supply.

2. The Draft Plan may contribute to significant declines and potential extinction of several salmon runs and other native fisheries.

If implemented, the increase of exports and reduction of Delta outflows over current levels would have significant adverse impacts on the Bay-Delta Estuary’s fish and wildlife, particularly threatened and endangered species. Increased exports and reduced Delta outflows result in decreased turbidity in the Delta, which contributes to the increased mortality of anadromous fish like Chinook salmon; increased residence time of water in the Delta, which contributes to negative water quality impacts such as potential harmful algae blooms; and declines in longfin smelt and related estuarine species (American shad, bay shrimp) that form an important link in the estuarine food web between micro-organisms and predators, including birds, marine mammals, and other fish. The U.S. Environmental Protection Agency (US EPA) stated in its August 26, 2014 comment letter on the DEIR/S, “Data and other information provided in the Draft EIS indicate that that all CM1 alternatives may contribute to declining populations of Delta smelt, Longfin smelt, green sturgeon, and winter-run, spring-run, fall-run and late-fall run Chinook salmon. Impact analyses in Chapter 11 show that entrainment, rearing, and migration conditions for these species are estimated, for many of the action alternatives, to be similar to, or worse than, existing conditions and sometimes worse than the future no action condition.”⁹ The revisions presented in Preferred Alternative 4A do not represent a substantial improvement to this assessment.

Furthermore, proposed project construction is expected to have significant impacts on Delta smelt, longfin smelt, steelhead trout, Sacramento splittail, green sturgeon, white sturgeon, Pacific lamprey, river lamprey, and spring-, fall-, late fall-, and winter-run Chinook salmon from noise associated with pile driving.¹⁰ Plan operations under Alternative 4A are expected to deliver additional significant and adverse impacts to fall-run and late fall-run Chinook salmon.¹¹ Indirect impacts on shorebirds and waterfowl are also expected.¹² Many of these species are endangered; some are on the verge of extinction in the wild. Even negative impacts that are considered “small” by the project proponents could have disproportionate effects on these vulnerable species. In comparison, the benefits of plan operation to fish and wildlife are uncertain. For example, the Delta Independent Science Board (Delta ISB) has noted that the data provided

⁸ RDEIR/SDEIS, Appendix C, p. C-1.

⁹ US Environmental Protection Agency, p. 10.

¹⁰ RDEIR/SDEIS pp. ES-48, ES-49, ES-51-54, ES-56-58.

¹¹ RDEIR/SDEIS pp. ES-23 and ES-54.

¹² RDEIR/SDEIS pp. ES-80-81.

on fish screens may be outdated, and has questioned how well the proposed fish screens on the new diversions will work, particularly on fish and larvae less than 20mm.¹³ Finally, the RDEIR/SDEIS both inadequately addresses and uses outdated models for the possible influence of climate change and sea level rise, which may reduce assumed benefits and exacerbate negative impacts.¹⁴

The RDEIR/SDEIS presents a plan with substantial known adverse impacts and uncertain benefits to fish and wildlife. Under the current degraded conditions of the Bay-Delta Estuary, with the decline of many native fish and bird species, the Proposed Project presents an unacceptable risk to the health of the Bay-Delta Estuary.

3. Impacts to areas downstream of the Plan Area, e.g., San Francisco Bay, are potentially significant and must be analyzed in the DEIR/S.

In Friends of the San Francisco Estuary's previous comment letter, we requested an analysis of the impacts of the proposed project on San Francisco Bay aquatic species, water quality, and the impacts of reduced sediment delivery to the Bay. Some of these analyses have been included in the RDEIR/SDEIS; however, essential information is missing or questionable where included.

Sediment

Total sediment loading to the Delta as the result of the new north Delta diversions will be reduced by approximately 9%, according to the RDEIR/SDEIS.¹⁵ This reduction has been deemed by the plan proponents to be less than significant because it is under 10%, and could be reduced further through restoration actions and the reuse of dredged material.¹⁶ The criteria for use of 10% as a benchmark for significance is not clear, particularly given the acknowledged potential to increase water clarity at areas downstream of the new north Delta diversions at certain times of the year.

The majority of sediment inputs to the San Francisco Bay Area comes from the Sacramento River and San Joaquin River watersheds. A reduction in 9% sediment loading for areas downstream of the new diversions will equate to a similar reduction in sediment loading to the Bay. Work by the U.S. Geological Survey (USGS) shows direct correlation between suspended sediment concentrations at the Bay Bridge and flows from the Delta,¹⁷ and a number of tracer studies have shown that sediment from the Delta reaches the South Bay.¹⁸ Suspended sediment delivery to the San Francisco Bay has been declining for the past sixty years, and scientists have determined all parts of the Bay except for the South Bay to be net erosional in recent years.¹⁹ With climate change and associated sea level rise, further reductions in sediment delivery could have significant impacts that would reduce the ability to restore wetlands, resulting in reduced shoreline flood protection and increased erosion. According to the recently released report *The Baylands and Climate Change: What We Can Do*, lack of sediment is a major threat to San Francisco Bay wetlands and the potential for climate change adaptation in the Bay.²⁰ Reduced sediment delivery will also reduce turbidity and increase the risk of nutrient loading problems and toxic algae blooms, including *Microcystis*. These potential impacts have not been adequately analyzed in the RDEIR/SDEIS.

¹³ Delta Independent Science Board, p. 17.

¹⁴ Delta Independent Science Board, pp. 11-13.

¹⁵ RDEIR/SDEIS, Appendix A, Ch. 11, p. 11-184.

¹⁶ RDEIR/SDEIS, Chapter 2, p. 2-2.

¹⁷ Shellenbarger et al. 2011.

¹⁸ McGann et al. 2013.

¹⁹ Barnard et al. 2013.

²⁰ State Coastal Conservancy 2015.

Microcystis

According to the RDEIR/SDEIS, “water temperatures and hydraulic residence times in the Delta are expected to increase under all operational scenarios of Alternative 4, resulting in an increase in the frequency, magnitude and geographic extent of *Microcystis* blooms in the Delta.”²¹ However, the authors conclude that this adverse impact to the Delta will not increase risk of *Microcystis* blooms in the San Francisco Bay. This conclusion is not supported by current research, which has shown that microcystins, found throughout the Bay, are clearly coming from the Delta in addition to other sources.²² For years, researchers have been noting a declining resistance to harmful algae blooms (HABs) in the San Francisco Bay, caused in part by reductions in sediment delivery from the Delta. More recent research indicates that there is cause for serious concern regarding the levels of toxins present in Bay algae blooms.²³

The recent *Microcystis* blooms in the Delta, caused by increased residence time and higher water temperatures related to the drought, indicate that any increase in frequency, magnitude, and geographic extent of such blooms could have significant and adverse impacts to downstream areas, including Suisun Marsh and the San Francisco Bay. These impacts include the production of HABs toxic to fish, wildlife, and humans. Endangered species of fish, shorebirds, and mammals, as well as humans who use the Bay for recreation and the western Delta for sources of drinking water, could suffer from these impacts.

The oversight of recent research into *Microcystis* interactions between the Bay and Delta, and the San Francisco Bay’s potential vulnerability to HABs caused by *Microcystis*, is a fundamental failure of the RDEIR/SDEIS to comply with CEQA. The threat posed by increased *Microcystis* blooms must be adequately addressed through more extensive analysis and full and appropriate offset of impacts.

4. Certain water quality impacts within the entire Bay-Delta Estuary have been determined to be significant and unavoidable, yet no mitigation is proposed for these impacts.

Although an effort has been made to reduce water quality impacts under Alternative 4A, significant impacts remain as noted in the RDEIR/SDEIS: “the cumulative condition would be adverse, or have reasonable potential to be adverse, for the following constituents: bromide, chloride, electrical conductivity, mercury, organic carbon, pesticides and herbicides, and selenium.”²⁴ Furthermore, as noted above, *Microcystis* blooms in the Delta are expected to increase in frequency, magnitude, and geographic extent. These impacts will degrade water quality in the Bay-Delta Estuary beyond current degraded conditions and represent grave shortcomings to a plan intended to meet the co-equal goals of both improved water supply and Delta ecosystem. The following water quality impacts have been inadequately addressed in the RDEIR/SDEIS and must be minimized through mitigation measures or changes to the plan.

Chloride and Electrical Conductivity (EC)

The potential for increased chloride levels in Suisun Marsh, noted in our comment letter on the DEIR/S, remains unresolved in the RDEIR/SDEIS. Bay-Delta WQCP objectives for chloride and EC are exceeded in Suisun Marsh under CA WaterFix. Additional analysis and modeling links increased chloride and EC levels to the design and siting of restoration measures; however, increases could be substantial and may not be feasibly controlled through restoration design and siting. Proposed mitigation measures are to conduct additional evaluation and modeling to determine the feasibility of preventing or offsetting

²¹ RDEIR/SDEIS, Appendix A, Ch. 8, pp. 8-304-305.

²² University of California Santa Cruz 2015.

²³ Kudela et al. 2014.

²⁴ RDEIR/SDEIS, Chapter 5, p. 5-74.

chloride and EC increases, as stated in the RDEIR/SDEIS: “Together, findings from [Mitigation Measures] WQ-11a and WQ-11b will indicate whether sufficient flexibility to prevent or offset EC increases is feasible under Alternative 4.”²⁵ These actions, however, do not offer much reassurance without the dedication of funding or other resources to these measures, and do not commit the plan proponents to any action beyond studies and evaluations.

Under all operating scenarios (H1-H4) of Alternative 4, Bay-Delta WQCP objectives for EC will be exceeded more frequently throughout the Delta for agriculture and fish and wildlife. These impacts are considered to be adverse and significant, as stated in the RDEIR/SDEIS: “The increased frequency of exceedance of the San Joaquin River at Prisoners Point EC objective and long-term and drought period average EC could contribute to adverse effects on fish and wildlife beneficial uses”²⁶ and “The increased frequency of exceedance of the fish and wildlife objective at Jersey Point and Prisoners Point could contribute to adverse effects on aquatic life.”²⁷ In addition, the western and southern Delta are listed under the Clean Water Act 303(d) impairment list for elevated EC. “The water quality degradation that could occur in these portions of the Delta could make beneficial use impairment measurably worse.”²⁸ Proposed mitigation measures, as above, do not provide assurance that EC impairment will be successfully addressed and minimized. Not only fish and wildlife but also Delta agriculture and western Delta drinking water sources could be adversely and significantly impacted by elevated EC.

Mercury and Methylmercury

According to the RDEIR/SDEIS, estimates of mercury and methylmercury concentrations in water and fish tissue as the result of CM1 operations were found to exceed Total Maximum Daily Load (TMDL) guidelines for the Delta. No mitigation for these exceedances is proposed, under the justification that the exceedances are small and therefore the likely result of modeling error. Due to the capacity of methylmercury to bioaccumulate in the environment and recognizing its toxicity to humans, the potential for these water quality impacts must be addressed through proposed mitigation. As noted in our previous comment letter, any potential exceedance of a TMDL should be addressed through mitigation that includes avoidance strategies or additional resources.

Selenium

The refined selenium analysis in the RDEIR/SDEIS shows an increase in green sturgeon fish tissue to levels above the toxicity threshold of 5 mg/kg for all project alternatives. Because this is the lower toxicity threshold, the plan proponents have determined that the impact is not significant or adverse. Again, the scientific criteria for this determination is unclear, particularly since selenium also bioaccumulates in fish and the aquatic ecosystem and is toxic to humans, and since green sturgeon are federally listed as a threatened species. Therefore, actions must be taken to eliminate this impact. Instead of commitment, however, the RDEIR/SDEIS maintains the same Avoidance and Minimization Measure as in the prior DEIR/S, AMM27. AMM27 essentially consists of the commitment to manage water and vegetation levels as feasible, to reduce selenium concentrations, and to define adaptive management strategies that can be implemented as feasible. These measures fall short of specific actions to mitigate for this adverse impact.

Microcystis

As noted above, the RDEIR/SDEIS finds that, “in summary, operations and maintenance under the four operational scenarios of Alternative 4, relative to the No Action Alternative, would result in long-term increases in hydraulic residence time of various Delta sub-regions during the summer and fall *Microcystis*

²⁵ RDEIR/SDEIS, Appendix A, Ch. 8, p. 8-245.

²⁶ Ibid, p. 8-241.

²⁷ Ibid, p. 8-242.

²⁸ Ibid, p. 8-242.

bloom period.”²⁹ These impacts to the Delta increase the risk of a microcystin outbreak, which would have widespread negative impacts to fish and wildlife and people. Higher Delta outflows would reduce residence time and water clarity in the Delta, leading to a reduced risk of a microcystin outbreak.

In sum, where measurable water quality degradation is a potential outcome, the RDEIR/SDEIS should define specific and definite environmental commitments to mitigate for negative impacts. At the very minimum, the TMDL exceedances work against the attainment of TMDL objectives and as such do not contribute to the improved condition of the San Francisco Bay-Delta Estuary. Reduced water quality in the San Francisco Bay-Delta Estuary, and potential adverse impacts to human health and threatened and endangered species, are not an acceptable tradeoff for increased reliability of water supplies.

5. The Draft Plan does not make an equitable commitment to the co-equal goals required under Delta Reform Act.

The original purpose of the Bay Delta Conservation Plan (BDCP) was to make significant progress toward the coequal goals of the 2009 Delta Reform Act: “‘Coequal goals’ means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place.”³⁰

With the separation of the BDCP into California WaterFix and California EcoRestore—and even earlier—the plan has drifted away from its stated purpose. The potential benefits to the Delta ecosystem offered by the CA WaterFix are overshadowed by significant adverse impacts to water quality and threatened and endangered species. The benefits to water supply, by comparison, are much more certain. In the separation of the two elements of BDCP into two programs, the CA WaterFix has maintained its previous scale, while CA EcoRestore has reduced the proposed acreage of habitat restoration by over fifty percent. This trajectory seems to indicate that, in fact, the coequal goals are not being given coequal priority.

As noted above, the adverse impacts to water quality, fish and wildlife, and the ecosystem provide a cumulative picture of further damage to the Bay-Delta Estuary while CVP and SWP water supplies improve in both quantity and quality. The supplemental modeling provided in Appendix C, however, demonstrates that a more reliable water supply is available while also benefiting endangered fish and wildlife, through a reasonable reduction in exports.

6. The BDCP does not reduce reliance on the Delta, as mandated by state law.

By maintaining or increasing current CVP and SWP exports from the Delta, the BDCP fails to reduce reliance on the Delta as mandated by the Delta Reform Act, Section 85021, which states, “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.”³¹ Subsequently, the California Water Action Plan has developed a suite of priority actions that implement this policy. The RDEIR/SDEIS does not contribute to a reduced reliance on the Delta, and thus does not comply with state policy.

²⁹ RDEIR/SDEIS Appendix A, Ch. 8, p. 8-304.

³⁰ Delta Reform Act, Section 29702.

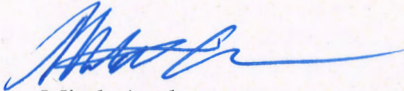
³¹ Delta Reform Act, Section 85021.

As demonstrated in the above comments, the proposed project poses substantial risks to the health of the Bay-Delta Estuary. The most tangible benefits accrue to those who benefit from higher and more reliable exports. A more reliable water supply is needed, but not at the price of possible species extinction and threats to human health and safety for those who live in the San Francisco Bay and Delta. The supplemental modeling requested by the State Water Resources Control Board points the way toward a more balanced approach, one in which fish and wildlife benefit from higher Delta outflows, while exporters benefit from better water quality and a more reliable, though smaller, water supply. This type of approach would better reflect state policy and should be offered as a fully developed project alternative. By maintaining or increasing current exports, the current Preferred Alternative 4A fails to take the necessary steps to address the consensus from regulatory agencies and scientists that improved Delta outflows are essential to recovery of the health of the Bay-Delta Estuary.

Friends of the San Francisco Estuary is an incorporated 501(c)(3) non-profit organization and a partner of the San Francisco Estuary Partnership, which is a program of the Association of Bay Area Governments and one of 28 National Estuary Projects. We are dedicated to the restoration and management of a healthy San Francisco Bay-Delta Estuary through the development of public involvement, education, communication, and advocacy programs. Friends also serves as an advocate for the implementation of the Comprehensive Conservation Management Plan for the San Francisco Estuary (CCMP), developed and approved in 1993 by the Governor and the U.S. EPA and revised and adopted in 2007. The mission of Friends of the San Francisco Estuary is to restore, protect, and enhance the San Francisco Bay-Delta Estuary.

Information on sources cited in this letter follows. If you have any questions about the comments in this letter, please contact Darcie Luce at (510) 282-1254 or friendsofsfestuary@gmail.com.

Sincerely,



Mitch Avalon
President

Cc: Felicia Marcus, Chair, State Water Resources Control Board
Mark Cowin, Director, California Department of Water Resources
John Laird, Secretary, California Natural Resources Agency

Att: July 29, 2014 BDCP comment letter

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