From: Olson, Theresa <tolson@usbr.gov>
Sent: Monday, November 02, 2015 9:36 AM
To: BDCPcomments
Subject: Fwd: Telephonic BDCP Comment

---------- Forwarded message ----------
From: **Sierzputowski, Janet** <jsierzputowski@usbr.gov>
Date: Mon, Nov 2, 2015 at 9:31 AM
Subject: Telephonic BDCP Comment
To: Theresa Olson <tolson@usbr.gov>
Cc: Janet Sierzputowski <JSierzputowski@usbr.gov>, Louis Moore <WMoore@usbr.gov>

Hi Theresa.

This morning on our main Public Affairs line was a call from Laura Jacobson from Friday, Oct 30, 2015, at 4:55 p.m. She said she'd tried to leave a comment on the BDCP website but that all she got was two sheets of information; there was no place to leave a comment.

Her comment is that she is against the tunnels. They are bad for the Delta, which needs fresh water. We will wreck the Delta with the tunnels. She has lived in Walnut Creek for 35 years.

Her address is 73 Willowbrook Lane, Walnut Creek. Phone number is 925-708-4659.

Thank you. Janet 11/02/15

Janet Sierzputowski, Public Affairs Specialist
Bureau of Reclamation, Mid-Pacific Region
2800 Cottage Way, MP-140, Sacramento, CA 95825
Office 916-978-5112, Cell 916-943-6944

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AUBURN DAM COUNCIL
P.O. Box 15221
Sacramento, CA 95851-0221
916-215-7246

October 30, 2015

BDCP Comments
P. O. Box 1919
Sacramento, CA 95812

COMMENTS ON DEIR/DEIS FOR THE BAY DELTA CONSERVATION PLAN/CALIFORNIA WATER FIX

To Whom It May Concern:

Thank you for the opportunity of commenting on the DEIR/DEIS for the Bay Delta Conservation Plan/California Water Fix (BDCP/CWF). Again, this effort fails to present the required alternatives, to the one presented (Alternative 4A), including the omission of an "additional water storage project(s)" alternative, to reflect some of the original comments. Other alternatives, which include additional water storage projects, can mitigate most, if not all, of the problems that the BDCP/CWF attempts to address. As discussed below, the BDCP/CWF ("Twin Tunnels") has assumed that the Delta levees are threatened by a potential seismic event, when there is some disagreement of the validity of that assumption. Yet, that has driven this exercise to a great extent! Please keep in mind that whatever seismic risk the Delta levees would be subject to, the "Twin Tunnels" would be subject to, as well. As an alternative, the completion of the dam in Auburn would solve most of the Delta ecosystem restoration challenges, help to provide a reliable water supply for the State, furnish needed flood protection to the Sacramento Region, supply at least 800 megawatts of electricity (a source of revenue-bond funding), provide a back-up supply of water to continually maintain the Folsom Reservoir at near capacity, and provide additional water for pulse flows to the Delta. Thus, this would eliminate the current, very costly, drought-related maneuvers and the need for the "Twin Tunnels" alternative.

Section ES.1.1

In section ES.1.1, page ES-1, line 15, the BDCP/CWF states that, *"the Delta is in a state of crisis."* Starting on line 17, *". . .Delta levees and the infrastructure they protect are at risk from earthquake damage, continuing land subsidence, and rising sea level. A major seismic event causing levee failure could cause an interruption of water exports for as long as several months or even years."* The point of seismic damage to Delta levees from an earthquake, is NOT settled science. For one, Dr. Robert Pyke (a Geological Engineer) has conceived the West Delta Intake Concept (WDIC), that argues that Delta levees are NOT at risk from a seismic event, or that the chance of a damaging seismic event is extremely minimal. Therefore, it's questionable whether the proposed "Twin Tunnels" are necessary to mitigate against a seismic risk, but if seismic risk WAS a factor, the "Twin Tunnels" would be subject to that risk, as well, creating flooding alone the entire reach of the tunnels.

RE 4RC 2600

Page ES-1, line 27, states, *". . .there is an urgent need to improve and modernize the existing SWP/CVP conveyance system, which was designed and built long before the 'environmental era.'"* The existing system was also designed with half the State's population in mind and long before there was any thought for, or concern over, climate change. These two issues can only be solved by additional water storage, because the snow pack that California used to depend upon for storage is quickly vanishing!

The *"reverse flows"* created by the pumps, *"cause, or contribute to, direct and indirect impacts on fish species such as Delta smelt. . .[and] salmon migration patterns. . . The recent historic drought has only made matters worse*." By the "worsened by the drought" admission, "proof" is provided that additional upstream water storage would remedy the adverse effects of *"reverse flows"*. That alternative (additional water storage) was not included in the original BDCP, nor was it presented in the BDCP/CWF proposal.

Page ES-2, line 1 states, *"The ecological problems with the current system could be greatly reduced [with] new north Delta intake structures with state-of-the-art fish screens."* As previously mentioned, Dr. Pyke's WDIC includes permeable levees, as opposed to fish screens. Although permeable levees require more maintenance, they do not provide the same level of negative pressure, as do fish screens, thus are an infinitely better protection for fish than are screens.

Page ES-3, lines 8-15, Although DWR would achieve compliance with the federal and State ESAs with this proposal, the 50-year incidental take authorization would not be necessary with a proposal that adds more upstream storage to the State's water system. Even with the five (5) key mitigatory changes listed on the top of page ES-3, these changes do nothing to increase California's overall water supply, and although the three new sub-alternatives would not involve the 50-year take authorization, due to a shorter project implementation period, that interval is not quantified, in the BDCP/CWF.

Starting at line 22, *"Implementing a dual conveyance system. . .would align water operations to better reflect natural seasonal flow patterns. . .and allow for greater operational flexibility to better protect fish."* This cannot be accomplished without additional upstream storage for low rain-year releases! How can water operations be controlled to any significant extent, without additional storage for timed releases?

Starting at line 28, *"Minimizing south Delta pumping would provide more natural east-west flow patterns."* This could also be accomplished with timed releases provided by additional upstream storage. Line 29 states, *"The new diversions would also help protect critical water supplies against the threats of sea-level rise and earthquakes."* Again, sea-level rise CANNOT be mitigated against without more water supply upstream for timed releases! This can be seen now with the water levels at Folsom, Shasta, and Oroville, all depleted to mitigate against salt-water intrusion! With regard to earthquakes, any fragility expected to affect Delta levees could also be expected to affect "Twin Tunnels." So, there's no way for Alternative 4A to mitigate against salt-water intrusion OR earthquakes!

Line 31 states, *". . .habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta."* This paragraph goes on to state that the California EcoRestore (EcoRestore), *"will pursue restoration of more that 30,000 acres of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation."* By focusing on additional upstream storage, outside of the Delta, such restoration can proceed more rapidly, as it will with separating EcoRestore from the conveyance project.

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ES.1.2.2 – Modified Project Objectives and Purpose and Need

Line 34 states, *"One of the primary challenges facing California is how to comprehensively address the increasingly significant conflict between the ecological needs of a range of at-risk Delta species and natural communities that have been and continue to be affected by human activities, while providing more reliable water supplies for people, communities, agriculture, and industry."* Well, first, it is my understanding that the Delta is primarily man-made. There are in excess of 1100 miles of man-made levees that protect valuable farmland from salt-water inundation. Thus, the ecological needs that now exist are not in conflict with human activities, but are a result of human activities. That said, existing Delta species and natural communities ought to be protected to the greatest extent reasonably possible, and as stated on line 39, the relevant State agencies *". . .endeavor to strike a reasonable balance between these competing public policy objectives and various actions taken within the Delta. . ."*

The Sacramento-San Joaquin Delta Reform Act of 2009 states the Legislative intent for the Delta, i.e., *". . .to provide for the sustainable management of the Sacramento-San Joaquin Delta ecosystem, to provide for a more reliable water supply (emphasis added) for the state, to protect and enhance the quality of the water supply from the Delta, and. . ."* Although the Delta *"serves Californians concurrently as both the hub of the California water system and the most valuable estuary and wetland ecosystem on the west coast of north and South America"* (California Water Code, Section 85002), as stated above, all 1100+ miles of levees are primarily man made. Thus, mankind will continue to protect the species habitat and environment that he has helped to create, but, due to climate change, that can only be done with addition upstream water storage projects that can offset the diminishing snow pack.

Starting on page ES-5, line 9, *"The ecological health of the Delta continues to be at risk. . .[with] [1] court decisions regarding the intersection of ESA, CESA, and the operations criteria of the SWP and CVP. . .[2] continuing subsidence of lands within the Delta, [3] increasing seismic risks and levee failures, and [4] sea level rise, associated with climate change, [all] serve to further exacerbate these conflicts. Simply put, the overall system as it is currently designed and operated does not appear (emphasis added) to be sustainable from an environmental perspective, and so the proposal to implement a fundamental, systemic change to the current system is necessary. . .to achieve the two coequal goals. . ."* Although, it is agreed that a fundamental change could mitigate Delta stressors to a great extent, Alternative 4A is not the only alternative. Again, additional upstream water storage can remedy most of the current challenges to the Delta, and the science is not at all settled on potential seismic risks to the Delta levees, as previously stated.

ES.1.2.2.1 – Project Objectives

Line 23 states, *"DWR's fundamental purpose [of Alternative 4A]. . .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 (emphasis added) south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations."* Due to the effects of climate change, with a severely-reduced snow pack and no additional upstream water storage, these objectives **cannot be met**, and therefore, the Delta, and the water it provides, is not sustainable.

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The following objectives are presented and paraphrased below:

- Address adverse effects to state and federally-listed species related to 1) the operation of existing SWP Delta facilities and construction and operation of facilities [related to the "Twin Tunnels"], and 2) to implement actions to improve SWP and/or CVP conveyance that could potentially "take" ESA and CESA listed species. Again, the permeable levees suggested by Dr. Pyke in his WDIC solve the "take" issue, permanently.
- Improve the Delta ecosystem by reducing adverse effects to certain listed species of diverting water by siting additional intakes [presumably upstream] and coordinated operations with the CVP. Again, this objective would be unnecessary with additional water supply provided by additional above-Delta upstream storage.
- Restore and protect the ability of the SWP and CVP to deliver up to full contract amounts (emphasis added), when [available, basically]. This cannot be accomplished without additional upstream storage, and, as discussed below, ES.1.2.2.2, line 26 states, *"It is not intended to imply that increased quantities of water will be delivered under the proposed project." ". . .deliveries of less than full contract amounts are consistent with this purpose."* Therefore, it is not the intent of this project proposal to necessarily provide any additional water, under SWP or CVP contracts, i.e., to the Central Valley!

ES.1.2.2.2 – Purpose and Need

BDCP/CWF's stated purposes (paraphrased) with responses:

1. Improve the movement of water entering the Delta from the Sacramento Valley watershed to the existing SWP and CVP pumping plants located in the southern Delta.

Said movement of water cannot be improved without additional flow. Additional flow requires additional upstream storage. That means the construction of some, or all, CalFed water storage projects and more.

2. Achieve the operation of existing and potential new SWP and existing CVP Delta facilities.

Because of climate change, the ultimate **"fix"** is additional storage to restore the originally-intended joint operations patterns of the SWP/CVP.

3. BDCP activities avoids adverse effects on listed species, and protects, restores and enhances riparian and associated terrestrial natural communities and ecosystems.

Separate water storage alternatives, that include the CalFed project options as well as others, would not create the Delta disruption, and several storage projects could be constructed at the same cost, or less, then the BDCP/CWF.

4. Restore and protect and ability of the SWP and CVP to deliver up to full contract amounts. . .

Yet the next paragraph says that this, *"is related to the upper limit of legal CVP and SWP contractual water amounts and delineates an upper bound. . ., not a target (emphasis added).* ***It is not intended to imply that increased quantities of water will be delivered under the proposed project*** *(emphasis added). . . .deliveries of less than (emphasis added) full contract amounts are consistent with this purpose."* As stated earlier, the BDCP/CWF may not be able to provide any additional contract water to

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the farmers of the Central Valley. If this paragraph addresses purpose and need for Alternative 4A (providing no additional water), then the "No Project" alternative would be the preferred alternative.

SUMMARY

In summary, the BDCP/CWF is based upon a questionable assumption that there is a risk to Delta levees by a seismic event. This assumption is addressed, and refuted, by the WDIC by Dr. Robert Pyke. Although Alternative 4A is DWR's preferred alternative under the California Environmental Quality Act and is Reclamation's preferred alternative under the National Environmental Policy Act, it fails to present other viable alternatives, such as additional upstream water storage alternatives. **Without additional storage**, and with climate change, there is not enough water to fill "Twin Tunnels," that would bypass most of the Delta, mitigate for salt-water intrusion, and mitigate for drought conditions, all at the same time! As you can see, the questionable assumption of seismic risk and providing additional upstream water storage projects, as an alternate solution to the BDCP/CWF, are the primary themes of these comments. Without additional upstream water storage, the Delta, the water it provides for most of the State, and California's agricultural economy, is NOT sustainable!

Respectively Submitted,

Ken Payne, Chairman

RECIRC
2600

From: Ken Payne <kenpayne65@yahoo.com>
Sent: Friday, October 30, 2015 8:11 PM
To: BDCPcomments
Subject: Comments on the BDCP/CWF
Attachments: BDCP Comments.doc

Please see the attachment.

Oct. 28, 2015

BDCP/Water Fix Comments

P.O. Box 1919

Sacramento, CA 95812

How many times do we have to vote NO on these tunnels? Do any of you actually represent the majority of the people or just special interest groups (Money)?

You are completely destroying the whole Delta. We never have had Sea Lions in Stockton and Sacramento until you put in the Peripheral Cannel which takes a lot of water. Water Hiaasen's will not flush to the ocean due to lack of water flow into the Delta as we already have two or three large pipe lines taking water from lakes and reservoirs going to Bay Area.

When we bought a fishing License $5 was designated to raise striper. Are we raising striper? NO. Has the license gone down? NO. Where is that $5 going to? One good example as to how things are ran.

The whole Delta will become a total disaster if you continue to cater to Corporate Farming groups, special interest groups. I guess the old saying "Money Talks" is true. You guys are not listening to the people and lining your own pockets.

I say NO to the water grabbing. Look for other alternatives.

Do you're Job, Listen to the majority of the People.

Gary Nixon

RecdBC2601

From: Laverne Nixon <lnixon@comfortairinc.com>
Sent: Friday, October 30, 2015 8:18 AM
To: BDCPcomments
Subject: Water Fix Comments
Attachments: NIX254.pdf

See attached

RECIRC2602.

Audubon CALIFORNIA

400 Capitol Mall, Suite 1550
Sacramento, CA 95814
(916) 737-5707
mlynes@audubon.org

October 30, 2015

VIA Email
BDCP/WaterFix Comments
P.O. Box 1919
Sacramento, CA 95812
BDCPComments@icfi.com

To Whom It May Concern:

Audubon California (Audubon) submits these comments regarding the Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Bay Delta Conservation Plan (BDCP) / California WaterFix in the hope of improving the document and ensuring that any efforts to address the significant challenges of the Sacramento-San Joaquin Delta ("Delta") derive from the best available science and comprehensive consideration of the project's impacts, mitigation measures, and uncertainties. The ecological value of the Delta cannot be overstated and a project of this size and complexity must proceed to carefully and fully assess environmental impacts and avoid, minimize, and mitigate for them to the fullest extent feasible.

Audubon has long been concerned with the fate of the Delta, as it is home to a strong community of inhabitants, provides a substantial amount of habitat for birds and other wildlife, and serves as a principal conduit of water from northern California to the people, farms, and wildlife refuges south. We understand that the status quo in the Delta is not sustainable and the California's water security depends on improving conditions there. But we remain concerned that the State has not yet provided adequate assurances that the impacts of the WaterFix project will be fully mitigated. More importantly, the State has not provided adequate assurances that the wildlife habitat, water quality, and human inhabitants in the Delta will be properly attended to once the tunnels are built; many harbor the reasonable concern that once the State builds the tunnels, the promises to the Delta will be left unfulfilled.

Audubon is a member of the Central Valley Joint Venture. In its letters of July 23, 2012 and May 24, 2013, the CVJV stated that the BDCP should improve—not compromise—efforts to conserve wildlife and habitat in and around the Delta. In its May 24,2013 letter, the CVJV recommended that "all Delta-related planning efforts, including BDCP…adopt a goal to contribute to the attainment of the acreage, water and bird population goals set forth by the Central Valley Joint Venture Implementation Plan."

Audubon is also part of the Migratory Bird Conservation Partnership (MBCP) with Point Blue Conservation Science and the Nature Conservancy. On July 29, 2014, the MBCP provided a comment letter on the BDCP and set forth the following principles:

- PRINCIPLE 1: *Avoid Detrimental Impacts to Wetland Water Supply*
- PRINCIPLE 2: *Mitigate for Impacts to Brackish and Freshwater Wetland-associated Birds and Bird Habitat.*
- PRINCIPLE 3: *Use Adaptive Management to Improve Mitigation Outcomes.*

The MBCP letter expressed concern about the many uncertainties in the DEIS/DEIR's assessment of impacts, planned conservation measures, and vaguely defined adaptive management measures. Specifically, we expressed concern and provided recommendations regarding the following:

- the DEIS/DEIR's overly-narrowed focus on threatened and endangered species, which missed opportunities to slightly adjust conservation measures in order to provide benefits to a broader array of species that would suffer impacts arising from the projects;
- the importance of post-harvest management as a boon for habitat quality and the recommendation that post-harvest, wildlife-friendly agricultural practices be included among conservation measures;
- the incomplete consideration of the conservation benefits of improved water management and vulnerabilities arising from climate change impacts to water delivery in areas where restoration may occur;
- the DEIS/DEIR's failure to include as a stated goal the maintenance or improvement of water deliveries to wildlife refuges, which will suffer direct and indirect impacts arising from the project;
- the overall failure to account for impacts of climate change on habitat restoration and protection activities and the failure to apply "climate-smart" principles in the planning effort;
- the lack of monitoring for shorebirds, waterfowl, and riparian songbirds, which, if remedied, would provide for an effective monitoring tool for ongoing restoration and effects arising from the project; and
- the lack of an adequate adaptive management plan, informed by ongoing monitoring and reinforced by specific benchmarks, triggers, and actions that would be taken if impacts or mitigation measures had unanticipated results.

While Audubon is pleased to see several improvements in the RDEIR/SDEIS, we note that all of the above-referenced concerns remain in the RDEIR/SDEIS. Specifically, we are most concerned about the following in the current draft:

1. The RDEIR/SDEIS fails to address impacts to water supplies for private, state, and federal wildlife refuges, particularly those south of the Delta.
2. The RDEIS/SDEIS continues to consider impacts on non-listed wildlife, now having an even narrower focus than the BDCP DEIR/DEIS.
3. The RDEIS/DEIS fails to include sufficiently robust monitoring and adaptive management plans.

I. WATERFIX MUST PROTECT WATER DELIVERIES TO CENTRAL VALLEY REFUGES.

A. Federal Law Requires that Water Deliveries to the CVPIA Refuges Be Protected.

Alternative 4A appears to anticipate reduced water deliveries and consequently some negative environmental impacts for certain Central Valley wildlife refuges. Water deliveries to these refuges are mandated under federal law under the Central Valley Project Improvement Act (CVPIA), yet federal agencies and the State of California have consistently failed to meet their obligations to the refuges.[1] Improvements to refuge water deliveries should be made by 1) taking advantage of the extended window for through-Delta transfers to enable CVPIA Level 4 supplies to be acquired north-of-Delta and transferred south-of-Delta; 2) providing assurances that pumping and conveyance capacity are available for refuge supplies; and 3) establishing refuges as a priority for delivery under system operations in any year type.

Because the water system is intertwined, each water management decision that will arise from the project will have system-wide impacts. For example, if additional outflow is needed through the Delta and operations at Oroville are altered to address this issue, there are likely impacts to Shasta operations that could impact refuge water deliveries. We ask that any water operation decisions include assessment of system-wide impacts and explicitly identify (which refuges, when and how) and address impacts to refuge water supplies.

The RDEIR/SDEIS does not adequately contemplate water supply impacts arising from the project operations on wildlife refuges. These operations will affect the timing and quantity of deliveries across water years. These impacts should be identified, including the specifics about which refuges are impacted, when and to what extent. Timing of impacts is especially important, since migratory bird habitat needs vary across months, weeks and water years. Impacts should consider the type of habitat impacted, as well as the species. Any detrimental impacts should be fully mitigated.

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[1] A major environmental accomplishment of the Central Valley Project Improvement Act (CVPIA) was the commitment to deliver to refuges and wildlife areas in the Central Valley a firm (Level 2) yield of 422,252 acre-feet, 37% of the annual water needs for existing wetlands. In addition, CVPIA mandated that an additional 133,264 acre-feet of so-called Level 4 water be acquired over a ten-year period commencing in 1992, thus ensuring that roughly half of refuge water needs would be met by the project. Between 1992 and 2009, legally mandated water supplies for the refuges fell short by more than 40,000 acre-feet from mandated Level 4 quantities; the current and future droughts create the risk that even less water is likely to be delivered for refuges and wildlife.

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B. The No Action Alternative Underestimates Water Deliveries to the Refuges and Provides an Inaccurate Baseline.

The No Action Alternative appears to assume that BOR will not deliver Level 4 water to the wildlife refuges, continuing BOR's ongoing violation of the CVPIA. The baseline assumption should be compliance with the law, not perpetual violation. In any event, by failing to assume Level 4 deliveries, the No Action Alternative sets an unreasonable baseline for impacts and results in an under-estimation of impacts from the Action Alternatives.

Moreover, the RDEIR/SDEIS states under the No Action Alternative, circumstances would remain similar to existing conditions except that CVP and SWP operations would differ because, among several enumerated changes, "there is a shift in refuge demands from south to north (24 TAF per year reduction in south of Delta and 32 TAF per year increase in north of Delta)." RDEIR/SDEIS at 4.2-3. The RDEIR/SDEIS should be revised to state the basis for this assumption, which is not the current understanding of groups actively working on refuge water supply issues.

The RDEIR/SDEIS also states

> Under No Action Alternative (ELT), model results show a 18 TAF (1%) decrease in CVP Settlement Contract deliveries and a 8 TAF (2%) decrease in CVP Level 2 Refuge Water Supplies during dry and critical years compared to the Existing Conditions. . . . Results show no changes in deliveries to CVP Exchange Contractors.

RDEIR/SDEIS at 4.2-10. The model appears to be in error because the wildlife refuges are entitled to the same priority as the Settlement Contractors and Exchange Contractors. Consequently, Level 2 water supply should decrease, if at all, by the same amount as it will decrease for Exchange and Settlement Contractors. This error appears to have been replicated elsewhere, including RDEIR/SDEIS at B-43.

C. The RDEIR/SDEIS Inadequate Assesses Impacts from Alternatives to Refuge Water Supplies.

The RDEIR/SDEIS states that certain Alternatives will have negative impacts on refuge water supplies, but fails to provide the necessary information to adequately assess these impacts. For example, the Water Supply Summary Tables in Appendix B of the RDEIR/SDEIS indicate that Level 2 water deliveries could be negatively affected by implementation of Alternative 4A. Table B.1-3 shows that, under Alternative 4 H3 (ELT), Level 2 refuge water supplies would decline compared to the No Action Alternative in dry and critical years. RDEIR/SDEIS at B-43. However, there is no discussion or analysis of this water supply impact. In contrast, the RDEIR/SDEIS includes a detailed discussion of the new alternatives' water supply impacts to CVP south of Delta agricultural deliveries, CVP Settlement and Exchange Contract deliveries, CVP north of Delta municipal and industrial deliveries, CVP south of Delta municipal and industrial deliveries, and several different SWP deliveries. *See, e.g.*, RDEIR/SDEIS at 4.3.1-5 to 4.3.1-9.

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Changes in water supplies to the refuges may violate state and federal law and is likely to have significant negative impacts for several species, including listed species. At a minimum, the RDEIR/SDEIS must be revised to adequately assess these impacts, ensure that impacts are aligned with the refuges' priority water rights, and provide for both mitigation and adaptive management to offset those impacts to the greatest extent feasible.

D. The RDEIR/SDEIS Fails to Adequately Assess and Mitigate for Impacts on Waterfowl and Shorebirds from Loss of Cultivated Lands due to the Alternatives.

The new alternatives will result in significant negative impacts to cultivated lands within the project areas and likely have much more far-reaching impacts on cultivated lands in the Central Valley. Given that the Central Valley has lost at least 95% of its historic wetlands, these cultivated lands are essential for the survival of shorebirds, waterfowl, and other birds.

Alternative 4A will result in the loss of at least 3768 acres of cultivated wetlands and temporarily impacts another 1339 acres. RDEIR/SDEIS, at 4.3.8-342. An additional 2212 acres of cultivated lands will be permanently lost due to the implementation of the Environmental Commitments. RDEIR/SDEIS, at 4.3.8-343. Despite the loss of more than 7000 acres of wildlife-friendly cultivated lands, the RDEIR/SDEIS concludes that the loss will be less than significant because of additional measures. However, the RDEIR/SDEIS fails to provide any specific management measures that will offset these loss.

The impacts to these cultivated lands may have more far-reaching consequences, given the likelihood of future transition of annual crops to less wildlife-friendly crops, such as almonds or grapes, the increased demand for water transfers from annual crops to other agricultural practices or cities, and impacts from climate change. The RDEIR/SDEIS fails to assess any of these potential impacts or the cumulative impact of the project's consequent loss of cultivated land when assessed with losses in wildlife-friendly cultivated land outside the project area.

E. The RDEIR/SDEIS Fails to Adequately Assess Impacts Arising from Increased Cross-Delta Water Transfers.

Cross-Delta water transfer will likely increase under all scenarios in the Delta, particularly under the new alternatives that will facilitate cross-delta water movement, which will minimize the current constraints created by endangered species and water quality concerns in the Delta.[2] Changes in south of Delta populations, groundwater regulation, agricultural practices (including increases in crops such as almonds), economic activities, and pressures from climate change and drought are also likely to increase demands for cross-Delta transfers over the life of the project. Water transfer decisions that reduce crops with high wildlife values, such as rice, in favor of less

[2] The RDEIR/SDEIS inexplicable claims that Alternative 4A will actually decrease cross-Delta water transfers. See RDEIR/SDEIS, at 4.3.1-9. Audubon assumes this is in error and will be corrected in the final EIR/EIS.

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wildlife-friendly agricultural practices or urban usage will have significant negative impacts on birds and other species and affect groundwater recharge north of the Delta. Finally, it is likely that south of Delta water rights holders will argue for higher allocations during drought years as connections between the Delta ecosystems (i.e., needs for endangered fish and water quality benchmarks) and north of Delta diversions into the tunnels may be more tenuous.

The RDEIR/SDEIS states that impacts from Alternative 4A would be significant if not for the environmental commitments. However, the RDEIR/SDEIS also acknowledges that the "environmental commitments have not been defined to the level of site-specific footprints," and accordingly that it is not possible to specifically delineate and quantify how the commitments "could alter the acreages and functions and values of wetlands and waters of the United States in the study area." RDEIR/SDEIS at 4.3.8-341. Therefore, the RDEIR/SDEIS cannot credibly make the claim that the environmental commitments adequately offset anticipated impacts.

The RDEIR/SDEIS deflects this sticky problem by promising that the effectiveness of the Environmental Commitments will be assured through monitoring and adaptive management. See RDEIR/SDEIS, at 4.3.8-338. However, as discussed below in Section II of this letter, the RDEIR/SDEIS lacks an adequate adaptive management framework and is exceedingly vague on how it will monitor impacts and success of mitigation measures.

II. THE RDEIR/SDEIS MUST BE REVISED TO INCLUDE AN IMPROVED ADAPTIVE MANAGEMENT FRAMEWORK.

Any project involves uncertainties related to impacts and mitigation measures, and the RDEIR/SDEIS correctly acknowledges that the proposed projects create considerable uncertainties. RDEIR/SDEIS, at § 4.1.2.4, 4.1-18. Moreover, the Delta Reform Act requires that Delta operations be informed and adjusted pursuant to adaptive management principles. Cal. Water Code § 85086(c)(2). In order to credibly acknowledge and address these uncertainties, the RDEIR/SDEIS must do more than refer generally to adaptive management.

The RDEIR/SDEIS briefly discusses the principles of adaptive management and what constitutes an effective adaptive management plan. RDEIR/SDEIS, at 4-21. All agree that a clear adaptive management plan must include, at a minimum, the following: (1) a clear goal statement, (2) a conceptual model, and (3) a decision framework. *See* R.M. Thom. 2000. Adaptive management of coastal ecosystem restoration projects. Ecological Engineering 15 (2000) 365–372. What the RDEIR/SDEIS *does not* do is describe its adaptive management plan in any useful manner whatsoever.

Audubon believes that the RDEIR/SDEIS provides a sufficiently clear goal statement for adaptive management, at least as it relates to ecological impacts.[3] More broadly, we also

[3] The RDEIR/SDEIS states: "the broad purposes of the program will be to: 1) undertake collaborative science, 2) guide the development and implementation of scientific investigations and monitoring for both permit compliance and adaptive management, and 3) apply new information and insights to management decisions and actions." RDEIR/SDEIS, at 4.1-18

understand that the goals of the RDEIR/SDEIS that touch on wildlife and habitat issues, especially with regard to habitat restoration, are linked to the goals of EcoRestore. It is clear that the intent of any affirmative action in the Delta is to maintain or improve ecological function even as other non-ecological goals are advanced. Moreover, consideration of ecological factors for SWP and CVP operations is required by the Water Code.

However, the RDEIR/SDEIS lacks both adequate conceptual models and a decision framework (or multiple frameworks, as multiple adaptive management plans may be necessary for different aspects of the project) to provide a sufficiently robust adaptive management plan. The RDEIR/SDEIS states

> Details of the collaborative science and adaptive management process, including adaptive management decision-making, an organizational structure for adaptive management decisions, and funding for collaborative science will be developed through the MOA, as needed.

RDEIR/SDEIS, at 4-21. At a minimum, the RDEIS/SDEIS should provide a framework and, where possible, specific triggers and management measures that may be implemented. Much of that information is discernable now and can be adjusted, as necessary, though the MOA process. But as written now, the RDEIR/SDEIS fails to provide the reader with any certainty as to these processes and outcomes.

Audubon is also concerned about the scope and duration of biological monitoring, especially for birds, in the Delta. The RDEIR/SDEIS section on adaptive management briefly discusses monitoring and emphasizes its importance, but it fails to provide any specificity as to the parameters to be monitored (e.g., water quality, bird populations, etc.), or the expected duration of monitoring efforts. The discussion of adaptive management invokes CSAMP and CAMT, but those processes focus on endangered species and would lack the necessary scope to include monitoring for non-listed species. Where more specific monitoring efforts are mentioned elsewhere in the document, the RDEIR/SDEIS again suffers from its overly-narrow focus on threatened and endangered species, such as the Black Rail, the monitoring of which will not necessarily provide helpful information for the management of other species, including waterfowl, shorebirds, passerines, and raptors.

Moreover, an effective adaptive management plan must include a monitoring program that is "long enough to provide reasonable assurances that the system has either met its performance criteria or that it will not likely to meet the criteria." Thom, *supra*, at 36. Audubon believes that given the scale of the project and importance of the Delta, the DEIR/SDEIS should anticipate state- and federally-funded monitoring for the life of the project, and those costs should be incorporated into the overall budget for the project.

Audubon concurs with the recommendations provided by the Delta Independent Science Board (DISB) and its recent report, *Adaptive Management in the Sacramento-San Joaquin Delta: How*

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Is It Used and How Can It Be Improved (August 2015).[4] We recommend that the RDEIR/SDEIS be revised to include more specificity in the adaptive management plan and that a Delta Adaptive Management Team be convened. The plan should describe benchmarks and other parameters for success, propose monitoring that informs assessment of those parameters, and describe the feedback loop of how new information will affect management decisions.

The RDEIR/SDEIS can be improved to include this information, even a summary fashion. For example, it would be extremely helpful if a summary table, such as the one provided below, were included:

Table 2. *Example of a summary table reporting status of a limited suite of all thresholds of potential concern (TPC) in a hypothetical freshwater protected area supplied by a river. The indicators are updated and reported on, providing an overall summary of progress in management and the ecosystem. This list evolves over time but all versions should be kept for a full understanding of the development of the system.*

Theme	Indicator	Threshold of potential concern (TPC)	Space and time scales for collection and evaluation	Status and development of TPC	Comments
Vegetation	Floodplain trees	80% of all trees in healthy condition	Annual surveys of floodplain tree plots reporting on condition across protected area	Available. Credibility rests on fact that lowest condition dependent on long-term drought	Possible future refinements: an upper limit determined by influence of flooding, rainfall and groundwater influence of fire possibly also important
	Macrophytes	Complete diversity complement	Surveys during wet periods on set plots	Not yet available – under development	Diversity indices could be used
Inundation Patterns	Area and distribution of flooding	80% inundation at least every five years, relative to natural flooding of different parts of the protected area	Annual evaluation using remotely sensed imagery	Well-established technology, linked to modelling of flow and inundation patterns	Improved linking with vegetation health and condition
Animals	Invertebrates	Density of aquatic invertebrates	Event-based monitoring	Thresholds to be established for different flooded areas	Time-consuming but possible to automate processing
	Fish	Ensure all indigenous species present, with recruitment	Monthly monitoring along river reaches	Modelling of communities over time indicate invasion of alien species - successful recruitment needs to be defined per species	Further analysis of movements and use of different habitats to determine priorities for different species
	Waterbirds	Breeding occurrence for particular defined species at least every two years. Diversity maintained	Annual surveys on river reaches and colony sites	Well established Good indication of links with flow quantity	Measurement of reproductive success in relation to flow and critical timing of flow and potential risk of nest desertion

Further themes (e.g. fire, alien species, rare species, earthworks, etc., dealt with similarly)

Source: Kingsford, R.T. and Biggs, H.C. (2012). Strategic adaptive management guidelines for effective conservation of freshwater ecosystems in and around protected areas of the world. IUCN WCPA Freshwater Taskforce, Australian Wetlands and Rivers Centre, Sydney.

Finally, the need to better define specific adaptive management measures that will be associated with the project is important not only because it addresses the inherent uncertainties of such a large, complex project, but because adaptive management measures themselves may result in significant negative environmental impacts (e.g., an action taken pursuant to an adaptive management plan that is intended to benefit some fish species may result in negative impacts to

[4] Available at http://deltacouncil.ca.gov/sites/default/files/2015/08/Adaptive%20management%20report%20v.8.pdf

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other fish and wildlife species). Defining the adaptive management measures early on provide a reviewer of the RDEIR/SDEIS to better assess the ripple effect of impacts the project is likely to initiate.

III. SECTIONS DISCUSSING WETLAND RESTORATION MUST BE IMPROVED TO (1) ADDRESSES UNCERTAINTIES RELATED TO WETLAND RESTORATION AND (2) EXPLAIN HOW WATERFIX AND ECORESTORE WILL INTERACT TO ENSURE THAT THE DELTA'S ECOLOGICAL FUNCTIONS WILL BE IMPROVED, RATHER THAN COMPROMISED, OVER TIME.

Audubon understands that the scope of wetland restoration has been scaled back considerably because WaterFix focuses primarily on the problem of conveyance through the Delta and the goal of improving habitat conditions in the region has been transferred to EcoRestore.

For many, however, it's hard not to subscribe to the notion that the State has decided to focus on what it really wanted all along – improved conveyance of water from north to south – and done away with the messy bits of stabilizing and improving the Delta ecosystem or complying with the strictures of a Natural Communities Conservation Plan. Given the sluggish pace of restoration and water quality improvements in the Delta, there is understandable concern that once WaterFix is implemented, EcoRestore will further languish.

In our comments regarding the BDCP, we expressed concern about the lack of specifics regarding habitat restoration, particularly the location, timing, and long term monitoring and management necessary for successful mitigation of impacts. Unfortunately, those concerns remain with the RDEIR/SDEIS. In many instances, the RDEIR/SDEIS concedes that it is currently impossible to assess impacts from planned activities. But rather than provide, at a minimum, a robust adaptive management plan to provide assurances that unanticipated impacts will be addressed, the RDEIR/SDEIS largely relies on vague promises of future mitigation.

At a minimum, mitigation for wetland impacts should be provided on a 3:1 basis, not a 1:1 as proposed. First, wetlands created as mitigation do not necessarily, acre-for-acre, replace the ecological value of those impacted by a project. Second, wetlands created as mitigation will have a lag time before they begin to provide the ecosystem function value provided by extant wetlands. Third, the RDEIR/SDEIS lacks an assurances that new wetlands will be created, as opposed to converting or marginally improving lands that may already be serving at least some wetland functions. Fourth, because the RDEIR/SDEIS lacks an adequate adaptive management framework, it lacks assurances that wetland mitigation projects will provide long term replacement value, which cannot be assumed given the inherent limitations and limited success rate in wetland restoration projects.

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IV. THE RDEIR/SDEIS MUST BE IMPROVED TO BETTER IDENTIFY AND MITIGATE FOR IMPACTS TO BIRD SPECIES AND TO INCLUDE CONSIDERATION OF IMPACTS TO MORE THAN LISTED SPECIES.

A. The RDEIR/SDEIS Inadequately Assesses Impacts to Listed Bird Species

1. California Black Rail

The RDEIR/SDEIS states

> CBR1 - At the ecotone that will be created between restored tidal wetlands and transitional uplands (Environmental Commitment 4), provide for at least 22 acres of California black rail habitat (*Schoenoplectus* and *Typha*-dominated tidal and nontidal freshwater emergent wetland in patches greater than 0.55 acres in the central Delta) consisting of shallowly inundated emergent vegetation at the upper edge of the marsh (within 50 meters of upland refugia habitat) with adjacent riparian or other shrubs that will provide upland refugia, and other moist soil perennial vegetation. If feasible, create the 22 acres of tidal habitat in a single patch in a location that is contiguous with occupied California black rail habitat.

(RDEIR/SDEIS, at 4-40). California Black Rail, like many tidal marsh species, needs contiguous habitat and respond positively to large, core areas more than 50 meters from the marsh edge.[5] The RDEIR/SDEIS should explain why the parcel will be limited to 22 acres. In any event, Audubon strongly encourages that the 22-acre area be created as a single patch with as large a core areas and as much suitably dense vegetation as feasible. If a single patch is infeasible, then the subsequent patches be as large and closely connected as possible using the best available models for high-quality rail habitat (i.e., a model may demonstrate that a 20-acre patch and a 2-acre patch provides greater value than two 11-acre patches, or four 5-acre patches, etc.).

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[5] Spautz, H. and N. Nur. 2002. Distribution and Abundance in Relation to Habitat andLandscape Features and Nest Site Characteristics of California Black Rail (*Laterellus jamaicensis coturniculus*): Final Report to the US Fish & Wildlife Service. Point Reyes Bird Observatory (Point Blue Conservation Science). Available at http://www.prbo.org/cms/docs/wetlands/BLRA_PRBO_Mar2002.pdf. The report found

> At the landscape scale they responded positively to the amount of marsh in the surrounding 250 m, the size of the core area of the marsh (interior area of a marsh more than 50 m from a marsh edge), and negatively to the distance to the nearest large (100 ha) marsh and to distance to water.

(*Id.*, at 2). *See also* Spautz, H. et al. 2005. California Black Rail (*Laterellus jamaicensis coturniculus*) Distribution and Aubdance in Relation to Habitat and Landscape Features in the San Francisco Bay Estuary. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191. 2005. Available at http://www.fs.fed.us/psw/publications/documents/psw_gtr191/Asilomar/pdfs/465-468.pdf.

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Also, Audubon notes that "feasible" means "[c]apable of being done, executed, affected, or accomplished. Reasonable assurance of success." Black's Law Dictionary, 6th ed., at 609. Therefore, to fulfill CBR1, the presumption is that the 22-acrew tidal habitat will be a single patch, even if it presents some design challenges or is more expensive than a smaller habitat patch.

2. Tricolored Blackbird

The Tricolored Blackbird is a California Species of Special Concern and is currently a candidate for protection under both the California and federal endangered species acts.[6] Ongoing monitoring has demonstrated that the species has suffered a precipitous decline since 2008, with its population size decreasing by approximately 68% since that time.[7] The primary cause of the decline is habitat loss.[8]

Audubon appreciates the measures included to protect Tricolored Blackbird populations in the RDEIR/SDEIS, but is concerned about how they will be implemented. First, how will Tricolored Blackbirds be monitored in the project area? Second, what will be the funding sources for both monitoring and restoration or protection measures? Third, how do these measures change if the species is listed under either the ESA or CESA? Fourth, what is the adaptive management framework if the species decline continues and/or impacts from the project are different than anticipated?

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[6] Information on the 90-day finding on the petition to list the Triclored Blackbird under the federal ESA is available at http://www.regulations.gov/#!documentDetail;D=FWS-R8-ES-2015-0138-0001 and https://www.federalregister.gov/articles/2015/09/18/2015-23315/endangered-and-threatened-wildlife-and-plants-90-day-findings-on-25-petitions#h-91. The California Fish & Game Commission voted to accept a new petition to list the Tricolored Blackbird under CESA at its October 2015 meeting and will likely vote on whether the species "may be warranted" for listing (and therefore be given CESA protections during a 1-year evaluation process) at its December 2015 meeting.

[7] Meese, R. J. 2014. Results of the 2014 Tricolored Blackbird Statewide Survey. U.C. Davis

[8] Once numbering in the millions, the Tricolored Blackbird population has declined to approximately 145,000 birds according to the 2014 statewide survey. *Id.*; *see also* Hamilton, W. J., III, L. Cook, and R. Grey. 1995. Tricolored blackbird project 1994. Report prepared for U. S. Fish and Wildlife Service, 69 pp + append; Neff, J. 1937. Nesting distribution of the tricolor-colored redwing. Condor 39(2):61-81. The triennial survey was developed and employed to track the Tricolored Blackbird population abundance and distribution. The most extensive and replicable surveys – conducted in 2008, 2011, and 2014 – show a steep decline in Tricolored Blackbird abundance. The Tricolored Blackbird population declined by 64 percent between 2008 and 2014, despite an increase in the number of sites surveyed (Meese 2014). Additionally, Graves et al. (2013) identified a 63 percent decline in mean breeding colony size from 1935 to 1975. Graves, E.E., M. Holyoak, R.T. Kelsey, and R.J. Meese. 2013. Understanding the contribution of habitats and regional variation to long-term population trends in tricolored blackbirds. Ecology and Evolution 2013; 3(9): 2845-2858.

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Currently, Tricolored Blackbird breeding in the project site is limited. However, wetland restoration associated with EcoRestore and Environmental Commitments anticipated in the RDEIR/SDEIS will likely lead to the creation of suitable habitat for tricolor nesting.

Audubon recommends that in devising and implementing the activities envisioned by TB1-4, the responsible agencies consult and coordinate with the Tricolored Blackbird Working Group.[9] The group is comprised of experts on the species from state and federal agencies, research and conservation organizations, and representatives of agricultural interests, working together cooperative to try to conserve the species while protecting private property rights and economic activity.

3. Swainson's Hawk

Swainson's Hawks continue to lose habitat in California due to land use conversion, particularly loss of grasslands and conversion of hawk-friendly agricultural lands to less hospitable uses, such as urbanization and renewable energy development. The RDEIR/SDEIS states that "Alternative 4A would result in the combined permanent and temporary loss of up to 6,843 acres of modeled habitat (38 acres of nesting habitat and 6,805 acres of foraging habitat) for Swainson's hawk (Table 12-4A-34)." RDEIR/SDEIS, at 4.3.8.-171.

Audubon is particularly concerned by the RDEIR/SDEIS's finding that Alternative 4A will have significant adverse impacts will occur to at least 12 known breeding territories/nesting sites and the loss of 883 of high-value foraging habitat. RDEIR/SDEIS, at 4.3.8-172; *see also* Table 12-4A-35. Moreover, the impact of permanent and temporary transmission lines on Swainson's Hawks (and other raptors, including Golden Eagle) are not well described in the RDEIR/SDEIS and do not appear to be included in the proposed mitigation measures.

SH1 should be modified to increase the mitigation ratio from 1:1 to 3:1. A 1:1 ratio assumes that the replacement habitat is necessarily equivalent to the habitat loss (an assumption that rarely proves true). Moreover, too often, the "conserved" habitat already provides Swainson's Hawk habitat, so the net effect is loss of extant habitat.

Regarding SH2, Audubon is unclear what mechanisms will ensure that the high-quality habitat will be "protected" and what that "protection" will offer. *See* RDEIR/SDEIS, at 4-41. Will it maintain the property in its current status? Will it prevent additional risks from powerlines, renewables, or rodenticide uses? Will fire management be an issue on those properties? Also, Audubon is unclear as to the -1 foot above mean sea level requirement. What is the reason for this parameter and does it expose the Swainson's Hawk habitat to greater vulnerability due to flooding and sea level rise?

[9] For more information, *see* http://tricolor.ice.ucdavis.edu/.

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B. Avoidance and Minimization Measures for Birds Are Not Based on Sound Science and Are Fail to Implement All Reasonable, Feasible Measures to Protect Birds.

Audubon is disappointed that the revision process did not result in the RDEIR/SDEIS improving upon the unsupported and inadequate avoidance and minimization measures to reduce impact to wildlife, particular birds. The RDEIR/SDEIS appears to rely almost entirely on the AMMs provided in Appendix 3.C of the BDCP DEIR/DEIS, which prior comments have noted are inadequate on multiple levels.

First, the AMMs fail to adequately protect breeding birds. In several cases, the AMMs provide for so-called buffers around nest sites (e.g., 250-1300 feet for Tricolored Blackbirds, 250 feet for California Least Tern). *See, e.g.*, BDCP at 3.C-43. The document does not provide any scientific reasoning for these buffers. In fact, many of these species are extremely sensitive to nest-site disturbance and can abandon active nests at the ranges provided. Moreover, disturbance from construction activities near a nest site may result in introduced predators or other disturbances. The AMMs completely fail to discuss or address these problems. The AMMS should be revised to address these deficiencies.

Second, the AMM document fails to explain how monitoring will be organized, funded, and reported upon. Will monitoring be provided through an open contracting process or will it be conducted by state personnel? What state agency will ultimately be responsible for monitoring efforts? When decisions as to what will be monitored and what will go unmonitored inevitably occur, will there be a transparent decision-making process and will the public be provided an opportunity to comment on the decision? Will data gathered during the various anticipated monitoring efforts be publicly available?

C. The RDEIR/SDEIS Fails to Adequately Assess and Mitigate for Cumulative Impacts Arising from Alternative 4A and the San Luis Transmission Project.

Alternative 4A will result in myriad significant adverse environmental impacts to sensitive habitats and species in and around Clifton Court Forebay. The San Luis Transmission Project, which will include 95 miles of new transmission lines with easements from 125-250 feet wide through the foothills of the Diablo Range and western San Joaquin Valley, will likewise have impacts on the resources in and around the Clifton Court Forebay.[10] Yet, the RDEIR/SDEIS fails to consider the transmission project in its cumulative effects analysis.

Overall, Audubon does not see how the RDEIR/SDEIS adequately addresses and mitigate impacts from new transmission lines (within the project's scope or cumulatively). While 4.3.8-

[10] See the Draft EIS/EIR, available at: http://www.sltpeis-eir.com/draftEIS-EIRMainText.pdf. Audubon notes that the transmission project is of particular importance to birds because impacts from the project will not only result in adverse impacts on the ground, but create a permanent impact due to collision risks for birds, particularly for raptors and migratory birds moving through the project area.

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140 acknowledges impacts to Sandhill Cranes from transmission lines, there is little consideration for such impacts to the wide range of species that suffer from transmission line and tower strikes, including Golden Eagles, Red-tailed Hawks, American Kestrels, and Swainson's Hawks. Moreover, new transmission line towers and lines may serve as perches for predators, resulting in higher depredation on species such as Burrowing Owls, California Black Rail, and several songbird species that rely on wetland and riparian habitat. For the most part, the RDEIR/SDEIS dismisses concerns about impacts and predation arising from transmission lines and powers without finding additional mitigation or measures are necessary.

V. CONCLUSION

Audubon appreciates the opportunity to submit these comments and the amount of work that the State has invested in attempting to provide a comprehensive environmental review document. We understand that while no document will be perfect, there are specific improvements that can be made to the project and the RDEIR/SDEIS to provide the public and decision makers with better and more complete information to understand the project and provide assurances that its adverse environmental impacts will be mitigated.

Perhaps most importantly, improvements in the draft's assessment of environmental impacts, its adaptive management framework, and its environmental commitments will provide the Delta community and conservation organizations with more assurance that their concerns will not wash out with the tide once the tunnels are constructed and water is flowing freely from north to south.

If you would like to discuss these comments further, please do not hesitate to contact me at mlynes@audubon.org or (916) 737-5707 ext. 102.

Respectfully submitted,

Michael Lynes

Michael Lynes
Director of Public Policy
Audubon California

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From: Lynes, Mike <mlynes@audubon.org>
Sent: Friday, October 30, 2015 9:21 PM
To: BDCPcomments
Subject: Audubon CA comments on WaterFix RDEIR/SDEIS
Attachments: Audubon Comments re WaterFix RDEIR-SDEIS - 10-30-15.pdf

Hello,

Please find attached comments from Audubon CA regarding the WaterFix RDEIR/SDEIS. If you have trouble receiving or opening this file, please do not hesitate to contact me.

Thank you,
Mike Lynes

Director of Public Policy
Audubon California
400 Capitol Mall, Suite 1535
Sacramento, CA 95814
Tel: 916-737-5707 extension 102
Cell: 415-505-9743
Fax: 916-737-5717
mlynes@audubon.org

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From:	Patrick Porgans <porgansinc@sbcglobal.net>
Sent:	Friday, October 30, 2015 11:18 PM
To:	BDCPcomments
Cc:	pp@planetarysolutionaries.org
Subject:	Porgans Fin DRAFT on RDEIR/SDEIS BDCP/California Water Fix Request for Receipt of this email
Attachments:	CAWaterFIXFDEIROct2015FinalDRAFT.pdf

To: Whom it may concern

Note: I sent Porgans & Associates' final draft comments around 8:20 p.m., as the notice said comments were due on or before 30 October and were to be sent to the following email address BDCPComments@icfi.com; however, we did not receive an acknowledgement that the comments were receive.

Friday, 30 October 2015

From: Patrick Porgans & Associates, porgansinc@sbcglobal.net

Re: Patrick Porgans & Associates Review and Comments on the Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) BDCP/California Water Fix, July 2015

Porgans & Associates are submitting this final draft rendition of its comments on the RDEIR/SDEIS BDCP/California Water Fix, which are due on or before 28 October 2015, please replace the earlier unedited version of P/As comments with those contained in the final draft, which has been edited. If you any questions regarding the content of this email, contact Patrick Porgans via email or via telephone (916) 543-0780. Thank you.

REC1RC2603

Email to BDCPComments@icfi.com **Friday, 30 October 2015**

From: Patrick Porgans & Associates, porgansinc@sbcglobal.net

Re: Patrick Porgans & Associates Review and Comments on the Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) BDCP/California Water Fix, July 2015

Porgans & Associates' (*P/As*) comments are presented in the following format:

(1) It provides a synopsis of *P/As* 40 year effort working with Delta landowners and reclamation district to require and/or compel government officials to provide the flood protection, water rights assurances, and a means to convey water through the Delta to the State Water Project (SWP) and federal Central Valley (CVP) pumping plants in the southern portion of the Sacramento-San Joaquin Delta. Delta facilities were approved by the State Legislature in 1959 (California Water Code section 12934(d)), Master Levees, and approved and funded by the voters in November 1960. There is an old quotation which says, "Those who fail to learn from history are doomed to repeat it" ...Winston Churchill. The "fix" as described in the preferred Alternative 4A appears to follow the same agenda DWR officials and Governor Jerry Brown have been promoting since the mid-1970s. Therefore, any course of action that involves an isolated water conveyance system around or beneath the Delta, as proposed, will pave the way to the Delta's final demise and serve as a testament to Churchill's warning,

(2) It list verbatim quotations extrapolated from the RDEIR/SDEIS and other government documents, which references the source document and page number, and

(3) It provides comments, concerns and suggestions, as they pertain to the quoted text and the preferred Alternative 4A, contained in the latest version of a myriad of failed plans and a plethora of government studies, spanning over five decades, purportedly to provide a fix for the Delta, which has already cost billions of dollars. Ironically, the Delta is not broken, that is a misnomer. For that matter the name change to the California Water Fix is also a misstatement of fact; the proposed Action should be properly entitled the SWP Fix, designed to bailout its agricultural water contractors and increase water supply reliability for urban contractors south of the Delta. Unfortunately, the success of adopting Alternative 4A will be at the expense and to the demise of the Sacramento-San Joaquin Delta.

(1). **Previous Input into the so-called BDCP/California Water Fix:** FYI: Be advised, P/A did comment on the BDCP initial DEIR, which, in unison with fisheries agencies and Delta farmers, found it to be grossly deficient, incomplete, myopic, and, most important, Alternative 4A is extremely beneficial to state and federal water project operators and their respective water contractors.

P/A voiced concerns regarding the DWR's ability to conduct an unbiased and objective study and perform an adequate environmental assessment and needs analysis, compliant with all of the CEQA, ESA, and CWA requirements, that would identify mutually viable alternatives to remedy many of the long-standing conflicts amongst different regions of the State and with those entities that have a "stake" in the use and distribution of the public's water resources.

P/A also attended DWRs public-relations California Water Fix update "meeting", held in Sacramento, California, in July of this year. At that event, DWR, fisheries agencies and government consultants were stationed at different booths, inviting the public to ask them questions regarding the viability of the latest rendition of the "fix". P/A went to each of the booth, on the various subjects, and asked specific questions; such as:

A). What assurance or confidence should the public and Delta interests place on the proposed fix; in light of the fact that the record indicates that SWP and federal CVP officials have yet to mitigate the ongoing cumulative impacts that has brought the Delta to the verge of ecological collapse; despite the fact that billions of dollars of publicly borrowed funds have been expended by DWR, and hundreds of millions of dollars by Congressional authorization, to restore and protect the Delta. As the public awaits a final decision that could cause the ultimate death of the Delta ecosystem and the sustainability of all those dependent on it as a means of survival. It is important not to lose sight of the fact, that, as mentioned in DWRs publication, this is the last largest remaining Delta on the West Coast of the Americas. It predecessor, the Colorado River Delta, which once empties into the Sea of Cortez, was essentially destroy as a result of the construction and operation of the federal Bureau of Reclamation's dams and reservoirs within the Colorado River watershed.

Comment: At the Sacramento meeting, DWR officials conceded that implementation and success of the proposed assurances and mitigation measures would be difficult to quantify at this stage; essential wait and see.

B).DWR officials iterate on how the BDCP/California Water Fix will set the stage for water development for the next 100 years. It is important to note, that the source of California's half of century in the making water crisis can be traced to the inherent financial and water contractual shortcomings of the SWP, which is administered and operated by DWR.

Comment: DWR's failure to provide Delta flood and water rights protection authorized and funded to fulfill legislative and voter mandates, approved and funded, back in 1959 and 1960, which were never provided; and

C).To DWR's and the federal Bureau of Reclamation's credit, they have expended a fortune of publicly borrowed money and U.S. taxpayers money to fund fish-doubling projects, aquatic habitat restoration and studies failed. Their cumulative actions, associated with SWP/CVP operations are responsible for the collapse of the Delta's ecosystem; regarding the level of confidence the public is expected to exhibit, in light of DWRs dismal performance to fulfill its mandates to protect the Delta, ensure its sustainability and restore and double endangered fish populations.

Comment: P/A questioned government fisheries personnel, at the July 2015 meeting, about the SWP/CVP operators' historical failure to mitigate for the massive decline in Delta dependent species, already listed as threatened or endangered under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA). The question was how do they expect the public to believe that they will make good on future assurances to improve fisheries and the Delta, when, government documents indicate that is in worse condition now, then ever before. They could not provide a definitive or logical statement or data to back up their assumptions.

Furthermore, the lead entity behind the "fix', Department of Water Resources (DWR) personnel, failed to address P/As primary concerns; i.e., inadequate justification for the need for the BDCP twin-tunnel Delta conveyance alternative; lacking credible data to support the validity of the presumptions, legitimate doubts regarding the assurances and modified mitigation measures alluded to in the RDEIR/SDEIS as feasible or if they will ever come to fruition. If one examines DWRs historical track record in making good on its assurances, they would find that assurances made heretofore to provide the much needed protections for the imperil Sacramento-San Joaquin Delta have been rife with a litany of broken promises.

Contrary to DWR and Reclamation's assertion that the RDEIR/SDEIS are CEQA and NEPA compliant, the record indicate that DWR officials failed to explore all of the feasible alternatives throughout the entire environmental review process. P/A discussed an alternative with DWR personnel that would not require construction of the tunnels; eliminates the need for new off-stream storage facilities; utilize existing laws to provide the authorized Delta facilities, initially designed to provide flood, water rights and a viable conveyance route to move SWP/CVP through the Delta; stabilize declining aquatic species; reduce surface and groundwater contamination attributable to the water project operations; provide ample mitigation; increased water supply, promotes and funds land retirement, and up-to-date technology to better utilized and manage the Golden States precious surface and groundwater resources. Much, if not all of this can be accomplished with an existing source of funds and in conjunction with other water-related projects currently underway.

ENVIRONMENTAL COMPLIANCE ISSUES

The environmental documents, as presently composed, do not appear to be compliant with the implied intent and purpose of CEQA. Title 14. Natural Resources, Division 6. Resources Agency. Chapter 3. Guidelines for Implementation of the California Environmental Quality Act (CEQA).

§ 15003. Policies.

In addition to the policies declared by the Legislature concerning environmental protection and administration of CEQA in Sections 21000, 21001, 21002, and 21002.1 of the Public Resources Code, the courts of this state have declared the following policies to be implicit in CEQA:

(a) The EIR requirement is the heart of CEQA. (County of Inyo v. Yorty, 32 Cal. App. 3d 795.)
(b) The EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected. (County of Inyo v. Yorty, 32 Cal. App. 3d 795.)
(c) The EIR is to inform other governmental agencies and the public generally of the environmental impact of a proposed project. (No Oil, Inc. v. City of Los Angeles, 13 C. 3d 68.)
(d) The EIR is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action. (People ex rel. Department of Public Works v. Bosio, 47 Cal. App. 3d 495.)
(e) The EIR process will enable the public to determine the environmental and economic values of their elected and appointed officials thus allowing for appropriate action come election day should a majority of the voters disagree. (People v. County of Kern, 39 Cal. App. 3d 830.)

(f) CEQA was intended to be interpreted in such a manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language. (Friends of Mammoth v. Board of Supervisors, 8 Cal. 3d 247.)
(g) The purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind. (Bozung v. LAFCO(1975) 13 Cal.3d 263)
(h) The lead agency must consider the whole of an action, not simply its constituent parts, when determining whether it will have a significant environmental effect. (Citizens Assoc. For Sensible Development of Bishop Area v. County of Inyo(1985) 172 Cal.App.3d 151)
(i) CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure. A court does not pass upon the correctness of an EIR's environmental conclusions, but only determines if the EIR is sufficient as an informational document. (Kings County Farm Bureau v. City of Hanford(1990) 221 Cal.App.3d 692)
(j) CEQA requires that decisions be informed and balanced. It must not be subverted into an instrument for the oppression and delay of social, economic, or recreational development or advancement. (Laurel Heights Improvement Assoc. v. Regents of U.C.(1993) 6 Cal.4th 1112 and Citizens of Goleta Valley v. Board of Supervisors(1990) 52 Cal.3d 553)

Note: Authority cited: Section 21083, Public Resources Code. Reference: Sections 21000-21176, Public Resources Code.

The California DWR's dismal historical track-record on environmental protection, and its inability to make good on past water right, flood protection, and fish and wildlife mitigation and enhancement assurances, mandated by law more than a half-a-century ago, are SWP impacts that have yet to be mitigated.

P/As initial comments clearly states that the Department of Water Resources (DWR), the lead agency preparing the CEQA document, and the federal Bureau of Reclamation (Reclamation) lead on the National Environmental Policy Act (NEPA) failed to identify a viable alternative to the proposed twin-tunnel conveyance system identified in the BDCP/California Water Fix as Alternative 4A; the preferred alternative. P/A discussed an alternative that would not require tunnels or an isolated conveyance system to convey SWP/CVP water to their pumping plants in the southern portion of the Delta.

SYNOPSIS: DWR and Reclamation administrators are to be commended for their "response" to the 12,000 comment letters regarding public concerns as to the impacts attributable to the proposed action. It is apparent that DWR and Reclamation officials dug deep into the "tool box" to conjure up Alternative 4A, of the California Water fix; formerly referred to as the BDCP; Delta Vision, Bay-Delta Accord, Peripheral Canal, Delta Master Levees, and so on. Unfortunately, those familiar with "California's water world", view Alternative 4A as just another "monkey wrench" that would compound the irreparable harm and damage attributable to conveyance and export of state and federal water via the Delta. In the past 30 years, the SWP/CVP pumped and exported more than 200 million acre-feet of water through the Delta that is enough water to flood the State's entire 200 million acres of land two feet deep in water.

The preferred alternative appears to have been weighted in favor of DWR, Reclamation and their State Water Project (SWP) and federal Central Valley Project (CVP) contractors, respectfully. In 1959, DWR officials were given a mandate by the state legislature and by voter mandate in 1960 to provide flood, and water right protection, for the Delta and serve as a conveyance system to transport SWP/CVP water across the Delta.

HUNDRED-YEAR CALIFORNIA WATER FIX MOVES FORWARD WHILE THE PAST 50-YEARS OF GOVERNMENT ASSURANCES TO PROTECT THE DELTA HAVE YET TO BE PROVIDED

If the measurement of DWR'S past-track record and "performance" and repeated failure to adhere to past legislative and voter mandates, than the question raise by P/A at DWR's July 2015 "public affairs meeting" to DWR personnel and fisheries agencies, was what level of confidence should the public have in DWR and Reclamation, both have an inherent conflict as "Trustees/protectors of Public Trust Resources", which includes water, and as water purveyors beholding to their respective contractors.

QUOTATION:

> The Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) is being made available to the public in accordance with the California Environmental Quality Act (CEQA), and the National Environmental Policy Act (NEPA).
>
> The comment period begins July 10, 2015. Comments must be received electronically or postmarked on or before October 30, 2015. For more information on how to submit comments, click here.
>
> The RDEIR/SDEIS has been prepared by the lead agencies (California Department of Water Resources and U.S. Bureau of Reclamation) to provide the public and interested agencies an opportunity to review engineering refinements made to the water conveyance facilities; to introduce new sub-alternatives: Alternatives 4A (California WaterFix), 2D and 5A; to explore multiple regulatory approaches; and, to include updated environmental analyses that, in part, were conducted in response to issues raised in the more than 12,000 comments received on the 2013 Draft Bay Delta Conservation Plan (BDCP) Environmental Impact Report/Environmental Impact Statement (EIR/EIS).
>
> Alternative 4A is the new California Environmental Quality Act (CEQA) Preferred Alternative, replacing Alternative 4 (the proposed BDCP). Alternative 4A is also the National Environmental Policy Act (NEPA) Preferred Alternative, a designation that was not attached to any of the alternatives presented in the Draft EIR/EIS. Alternative 4A includes water conveyance facilities (three new intakes along the Sacramento River and dual-bore tunnels to convey water to the existing state and federal pumping facilities) and operations elements similar to the BDCP (Alternative 4) and habitat restoration measures and other environmental commitments necessary to satisfy State and Federal environmental laws.
>
> Alternative 4A embodies a new regulatory approach for gaining necessary permits and authorizations for implementation under the California Endangered Species Act (CESA) and Federal Endangered Species Act (ESA). The RDEIR/SDEIS evaluates the potential impacts related to changes to Alternative 4, the proposed project (Alternative 4A) and two additional sub-alternatives, Alternatives 2D and 5A. The RDEIR/SDEIS also includes other substantive changes, and information added in response to technical comments received on the December 2013 public review draft documents. The RDEIR/SDEIS only includes those sections where changes or modifications have been made that necessitate additional public review according to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).
>
> ***All substantive comments*** *received on the RDEIR/SDEIS (and those previously received during the comment period for the 2013 BDCP Draft EIR/EIS)* ***will be responded to in the Final EIR/EIS and considered in the decision-making process.*** *No final decisions have been made regarding going forward with the proposed project or in selecting an alternative; those decisions will only occur after completion of the CEQA and NEPA processes.*

The comment period ends 45-days after the publication of the Environmental Protection Agency's (EPA) Federal Register notice.[1] [Emphasis added.]

Bay Delta Conservation Plan/California WaterFix 1 Partially Recirculated Draft EIR/ 2 Supplemental Draft EIS Executive Summary 3

ES.1 Introduction 4 ES.1.1 Background and Context: The Sacramento-San Joaquin Delta (the Delta) is a vitally important ecosystem that supports hundreds of aquatic and terrestrial species, many of which are threatened or endangered. Located at the crux of two major watersheds that capture runoff from approximately 40 percent of the land in California, the Delta is also at the core of the state's most important water system, which serves millions of Californians throughout the San Francisco Bay Area, the Central Valley, the Central Coast, and southern California. This water supports agricultural, municipal, and industrial land uses that, taken together, are the source of much of California's financial stability and prosperity. The benefitting areas include farms and ranches from the north Delta to the Mexican border, as well as Silicon Valley, portions of the East Bay, and most of urban southern California.

Unfortunately, the Delta is in a state of crisis. Several threatened and endangered fish species, including Delta smelt and winter-run Chinook salmon, have recently experienced the lowest population numbers in their recorded history. Meanwhile, Delta levees and the infrastructure they protect are at risk from earthquake damage, continuing land subsidence, and rising sea level. A major seismic event causing levee failure could cause an interruption of water exports for as long as several months or even years. And the amounts of water available for human use south of the Delta have already decreased significantly in recent years, independent of the drought, due to regulatory actions by the United States Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Wildlife (CDFW). Applying federal and state endangered species laws, these entities have required the Department of Water Resources (DWR) and the United States Bureau of Reclamation (Reclamation) to substantially alter the manner in which they jointly operate the State Water Project (SWP) and the federal Central Valley Project (CVP).

For both environmental and economic reasons, there is an urgent need to improve and modernize the existing SWP/CVP conveyance system, which was designed and built long before the "environmental era." Many of the current systemic problems stem from the fact that both the SWP and the CVP export water from intake facilities, including pumps, that are located at the far southern edge of the Delta, near the City of Tracy. Because of their far southerly location and their elevation above sea level, these pumps create "reverse flows" that pull river water southward (upstream, in effect) towards the intakes, rather than allowing it to flow downstream towards San Pablo Bay, San Francisco Bay, and, ultimately, the Pacific Ocean. Not surprisingly, these reverse flows cause, or contribute to, direct and indirect impacts on fish species such as Delta smelt, which are pulled towards the pumps, where adverse conditions, including the presence of predator species, await them. The reverse flows also adversely affect salmon migration patterns. To try to reduce these adverse effects on fisheries, regulators have substantially reduced water exports to SWP and CVP service areas, to the economic detriment of those areas. The recent historic drought has only made matters worse.

These agencies' initial approach, going back as far as 2006, focused on the development of an extensive conservation plan known as the Bay Delta Conservation Plan, or BDCP, which would add new intakes in the north Delta while at the same time pursuing a very large-scale long-term habitat restoration program within the greater Delta. Under this potential approach, DWR would achieve compliance with the federal Endangered Species Act (ESA) through a habitat conservation plan (HCP) approved by both USFWS and NMFS under Section 10 of the ESA, and would achieve compliance with state endangered species laws through approval by CDFW of a natural community conservation plan (NCCP) prepared under the California Natural Community Conservation Plan Act (NCCPA). Both the HCP and NCCP would provide incidental take authorization for a period of 50 years. Reclamation would achieve compliance with ESA through Section 7 of that Act.

ES-3
Section 3.1 of this Partially Recirculated Draft EIR/Supplement to Draft EIS 1 (RDEIR/SDEIS); and the Draft EIR/EIS text changes needed to reflect the modifications are shown in "track changes" in Appendix A of this RDEIR/SDEIS. Among the key changes are (i) the elimination of three pumping plants associated with new intake facilities; (ii) associated reductions in construction-related air pollutant emissions at intake sites; (iii) substantial reductions in the

[1] http://baydeltaconservationplan.com/2015PublicReview/PublicReviewRDEIRSDEIS/PublicReviewRDEIRSDEIS_508.aspx

amount of construction occurring on Staten Island; (iv) reductions in water quality effects; and (v) the relocation of key project features from private property to public property already owned by DWR.

The three new sub-alternatives (4A, 2D, and 5A) developed by the Lead Agencies embody a different implementation strategy that would not involve a 50-year HCP/NCCP approved under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b) assuming a shorter project implementation period. These new 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. This alternative implementation strategy would allow for other state and federal programs to address more extensive long-term habitat restoration efforts for species recovery in programs separate from the proposed project.

The construction and operation of new conveyance facilities, as now proposed under Alternatives 4A, 2D, and 5A, would help resolve many of the concerns with the current south Delta conveyance system while otherwise helping to reduce threats to endangered and threatened species in the Delta through limited but substantial amounts of habitat restoration, as necessary to mitigate significant environmental effects and satisfy applicable ESA and CESA standards. Implementing a dual conveyance system, in which water could be diverted from either the north or the south or both, depending on the needs of aquatic organisms, would 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. The new system would reduce the ongoing physical impacts associated with sole reliance on the southern diversion facilities and allow for greater operational flexibility to better protect fish. Minimizing south Delta pumping would provide more natural east–west flow patterns. The new diversions would also help protect critical water supplies against the threats of sea level rise and earthquake/

Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the California Resources Agency and implemented under the California Water Action Plan. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation.

Alternative 4A is also known as "The California WaterFix." It is now DWR's preferred alternative under the California Environmental Quality Act (CEQA) and Reclamation's preferred alternative under the National Environmental Policy Act (NEPA).

ES.1.2.2 Modified Project Objectives and Purpose and Need: One of the primary challenges facing California is how to comprehensively address the increasingly significant conflict between the ecological needs of a range of at-risk Delta species and natural communities that have been, and continue to be, affected by human activities, while providing more reliable water supplies for people, communities, agriculture, and industry. This challenge must be addressed in decisions by DWR, the CDFW, and the State Water Resources Control Board as they endeavor to strike a reasonable balance between these competing public policy objectives and various actions taken within the Delta, including this proposed project. State policy regarding the Delta is summarized in the Sacramento–San Joaquin Delta Reform Act of 2009, which states:

"it is the intent of the Legislature to provide for the sustainable management of the Sacramento-1 San Joaquin Delta ecosystem, to provide for a more reliable water supply for the state, to protect 2 and enhance the quality of water supply from the Delta, and to establish a governance structure 3 that will direct efforts across state agencies to develop a legally enforceable Delta Plan." (California Water Code, Section 85001, subd. [c]).

The Delta "serves Californians concurrently as both the hub of the California water system and the most valuable estuary and wetland ecosystem on the west coast of North and South America." (California Water Code, Section 85002).

The ecological health of the Delta continues to be at risk, the conflicts between species protection and Delta water exports have become more pronounced, as amply evidenced by the continuing court decisions regarding the intersection of ESA, CESA, and the operations criteria of the SWP and the CVP. Other factors, such as the continuing subsidence of lands within the Delta, increasing seismic risks and levee failures, and sea level rise associated with climate change, serve to further exacerbate these conflicts. Simply put, the overall system as it is currently designed and operated does not appear to be sustainable from an environmental perspective, and so the proposal to implement a fundamental, systemic change to the current system is necessary. This change is necessary if California is to "[a]chieve the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem." (California Public Resources Code Section 29702, subd. [a]).

A statement of Project Objectives by the Lead Agencies is required by the State CEQA Guidelines, and 20 a Purpose and Need Statement is required by the CEQA/NEPA Regulations.

Comment: The proposed preferred alternative does not appear to meet the aforementioned criteria, and as a result of those inherent shortcomings, raises doubts about CEQA/NEPA compliance, and the feasibility and effectiveness of the proposed "fix" as described in Alternative 4A. Suffice it to say, that P/A cannot support the preferred alternative, and asserts that the CEQA/NEPA documents are inadequate.

Note: It is now 8:30 p.m., PST, and the comments are due on or before 28 October, therefore, P/A will not be able to complete all of its comments. Please discard the earlier DRAFT comments with the comments contained in the file attached to this email, and confirm receipt of this email transmission, and post the comments, accordingly. Thank you.

Respectfully,

Patrick Porgans, Solutionist. Patrick Porgans & Associates, P.). Box 60940, Sacramento, CA 95860.

P.S. P/A made several attempts to obtain a copy of the comments it made at DWRs July meeting, however, DWR refuse to provide the transcript.

TULARE LAKE BASIN
WATER STORAGE DISTRICT
ESTABLISHED SEPTEMBER 1926
1001 CHASE AVENUE, CORCORAN, CALIFORNIA 93212
PHONE (559) 992-4127 • FAX (559) 992-3891

October 30, 2015

BDCP/WaterFix Comments
P.O. Box 1919
Sacramento, CA 95812
Via Email: BDCPComments@icfi.com

Re: Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement for the Bay Delta Conservation Plan/California WaterFix

The Tulare Lake Basin Water Storage District (District) is an agricultural district that delivers surface waters from multiple sources to its landowners. The District contracted for State Water Project (SWP) water to provide a more dependable surface water supply for lands within the District and reduce groundwater pumping. The District appreciates the opportunity to comment on the Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement for the Bay Delta Conservation Plan/California WaterFix Project.

The SWP is a critical part of our conjunctive use and groundwater management programs. The current trend of reduced and interrupted SWP supplies and increasing costs has had significant impacts on the District and surrounding area. SWP deliveries have been repeatedly interrupted and reduced due to operational conflicts with threatened and endangered species in the Delta. The reduced reliability of the SWP supplies, coupled with the increased costs of these supplies, has resulted in significant impacts to the District.

The District has generally been supportive of the proposed BDCP/CA WaterFix project to address chronic reduced reliability of the SWP in a manner that protects the Delta's environment. The District remains concerned on costs and the affordability of the Project for its agricultural landowners.

The District supports comments provided by the Kern County Water Agency, in their letter dated October 30, 2015.

The District appreciates the opportunity to provide comments.

Sincerely,

Mark Gilkey
General Manager

RECRC 2604

From: Jacob Westra <JWestra@tlbwsd.com>
Sent: Friday, October 30, 2015 2:40 PM
To: BDCPcomments
Cc: Mark Gilkey
Subject: Comment Letter on BDCP/California WaterFix RDEIR/SDEIS
Attachments: TLBWSD Comment Letter on BDCPCalifornia WaterFix RDEIRSDEIS.pdf

Please see attached comment letter from Tulare Lake Basin Water Storage District related to the Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS).

The original letter will follow by mail.

Regards,
Jacob Westra

Jacob J. Westra
Assistant General Manager
Tulare Lake Basin Water Storage District
1001 Chase Ave.
Corcoran, CA 93212
559.992.4127 (Office)
559.992.3891 (Fax)
559.631.3367 (Mobile)

O'Laughlin & Paris LLP

Attorneys at Law

October 30, 2015

Via Email and U.S. Mail

BDCP/California WaterFix Comments
P.O. Box 1919
Sacramento, CA 95812
Email: BDCPComments@icfi.com

Re: RDEIR/SDEIS Comments

To Whom it May Concern:

The San Joaquin Tributaries Authority (SJTA) reviewed the Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (EIR). The SJTA has concern regarding the environmental impacts assessment of the Delta Conservation Plan/California WaterFix (Project). Specifically, the SJTA is concerned regarding the document's failure to (a) identify and evaluate the Project water supply, (b) identify Project impacts from other cumulative impacts, (c) separate project impacts from climate change and sea level rise, (d) account for reasonably foreseeable projects, (e) describe and consider existing conditions, (f) describe inconsistencies with land use plans, and (g) the failure to analyze and account for inconsistent salinity analyses.

I. Failure to Identify Project Water Supply

Since the Project was first proposed several years ago, the Project proponents have promised the Project will have no redirected impacts to water users upstream. Further, the Project proponents have stated that the Project will not rely on taking water from upstream water users. However, the EIR does not provide assurance or support for these positions. To the contrary, the EIR fails to identify, disclose or otherwise analyze the water supply for the Project.

At the same time the Project fails to identify the source of water to support the Project, it also fails to address or analyze the impact of the State Water Resources Control Board's review and proposed amendment to the Water Quality Control Plan for the San Francisco-Sacramento/San Joaquin Delta Estuary (Bay Delta Plan). The proposed amendments to the Bay Delta Plan require upstream water users to meet significantly higher instream flow requirements. Thus, the Project fails to identify the

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RECIRC2605

water supply for the Project, but instead, appears to rely on the upcoming Bay Delta Plan amendments to supply water without analyzing any impacts of this reallocation of water. This approach is unlawful and intolerable. (*Stanislaus Natural Heritage Project v. County of Stanislaus* (1996) 48 Cal.App.4th 182 [an EIR must analyze the environmental consequences associated with acquiring long-term water supply].)

The EIR must be revised to identify the supply of water that will support the proposed Project. To the extent upstream water users can be assured the Project will not result in re-directed impacts to their water supply, the EIR should so state and provide supporting information and analysis. To the extent the Project intends to rely on additional water supply from future regulation, the EIR must analyze the impacts of this future regulation on upstream water users and mitigate for impacts incurred.

II. Failure to Disclose Plan of Operations

The EIR fails to disclose how the Project will be operated. In its description of operations, the EIR only offers that the new intakes will be used jointly with the existing south of Delta facilities. However, the EIR provides no information that identifies the season, quantity, timing, and/or operation of how the two facilities will be co-operated. This failure to disclose and analyze the operational impacts is unlawful. (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185 [requiring an EIR that analyzed the components of the proposed project]; *County of Inyo v. City of Los Angeles* (1981) 124 Cal.App.3d 1, 6-7 [an EIR must consider the components necessary to achieve the goals of a proposed project].)

From a practical standpoint, the failure to identify an operational plan (or several potential operational scenarios) leaves the reviewer with very little understanding of how the Project will impact the surrounding environment. It is unclear if any or all the water exported will be diverted through the new intake facilities, or whether the project will only divert a portion of the water at the new facilities. Thus, it is not clear whether the existing Delta environment will remain much the same, or whether the Delta will no longer be used to convey export water, resulting in hundreds of thousands of acre feet of water piped around the Delta, rather than through it.

In addition, the failure to identify potential operational scenarios makes the Project legally deficient. CEQA requires the Project proponent describe, disclose, and analyze the Project impacts sufficiently to allow "those who did not participate in its preparation to understand and consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376, 404.) As noted above, without disclosing a proposed operations plan, it is impossible to evaluate the impact of the Project.

III. Failure to Separate Project Impacts from Climate Change and Sea Level Rise

The EIR fails to separate the impacts from the Project from impacts resulting from climate change and sea level rise. Because the future projected impact from climate change and sea level rise are significant, it is not possible to identify or evaluate the impacts from just the proposed Project. This failure to identify Project impacts violates CEQA.

RECIRC2605

CEQA requires that an EIR consider cumulative impacts. (CEQA Guidelines, § 15064.) This analysis requires the Project proponent identify the cumulative impacts of all future projects and identify the proposed Project's incremental effect with respect to the cumulative impacts. (*Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 120.) Thus, the impacts from the Project must be identified separately from the larger cumulative impacts. The EIR does not comply with this requirement. To the contrary, in much of the environmental analysis, the EIR co-mingles Project impacts together with the projected climate change and sea level rise impacts to make a single conclusion about future impacts, without separately analyzing Project impacts.

IV. Failure to Take into Account Reasonably Foreseeable Projects

The EIR relies on outdated information and fails to take into account reasonably foreseeable projects. Specifically, the EIR analyzes Project impacts based on the existing water quality requirements contained in D-1641. The EIR fails to consider changes to the Bay Delta Plan that have already been proposed by the State Water Board.

Under CEQA, a proposed Project is required to identify past, present, and reasonably foreseeable projects and analyze Project impacts as they relate and add to the impacts of such projects. (CEQA Guidelines, § 15130.) The State Water Board's review and amendment of the Bay Delta Plan is not only a reasonably foreseeable project, it is already underway. The State Water Board has released a substitute environmental document outlining its proposed amendments in Phase 1 of the Bay Delta Plan review. (http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2012_sed/.) The State Water Board has solicited comments and held a hearing on the Phase 1 proposal. (*Id.*) In addition, the State Water Board has also initiated Phase 2 of the review, by holding several workshops and commissioning several reports. (http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/comp_review.shtml.) For these reasons, the on-going review of the Bay Delta Plan and amendment to water quality requirements is underway and certainly reasonablY foreseeable. The EIR must be revised to take into consideration the water quality amendments and how the Project will affect the environment, considering the proposed amendments.

V. Failure to Describe and Consider Existing Conditions

The California Code of Regulations Title 14 section 15125(a) requires the EIR include a description of the existing baseline environment and conditions. The purpose of this requirement is to facilitate the analysis of Project impacts and determine which impacts are significant. The EIR includes Appendix 3D, which discloses existing conditions. However, this section only lists ongoing projects; it does not describe the existing or baseline physical condition of the Project area. Without such a description it is difficult, if not impossible, to understand the impact of the proposed Project. For these reasons, the EIR should be amended to include a description of the baseline physical condition of the Delta and other affected areas.

REC IRC 2605

VI. Failure to Describe Inconsistencies with Land Planning Documents

The Code of Regulations Title 14 section 15125(d) requires the EIR identify any inconsistencies with the Project and land use plans. The EIR does not identify such inconsistencies. Most egregiously, the Project conflicts with several land use planning documents for areas in the Delta. However, there are also land use plans upstream of the Delta which rely on continued water availability to support development and projected growth. The Project estimates that it will reduce water supply upstream on the San Joaquin River by approximately 100,000 acre feet. However, the EIR fails to identify this inconsistency and/or analyze the environmental impact therefrom. The EIR should be revised to identify and analyze the Project's inconsistencies with land use planning documents consistent with section 15125(d).

VII. Inconsistent Position Regarding Salinity

The EIR concludes that the Project is expected to have little impact on salinity in the Delta. (EIR, Chapter 8.) However, one of the Project proponents, the State Water Project Contractors, recently submitted a complaint to the State Water Board. (http://www.swc.org/images/stories/swc_complaint_june16.pdf.) This complaint was premised on the idea that without Project water being conveyed through the Delta, the water quality in the Delta would be so salty it would be unable to be used beneficially. The complaint was supported by technical data and modeling. Despite the fact that the Project proponents appeared to have developed this technical data, it was not considered by the EIR. The EIR should review this data and be revised to explain how it can be consistent with the EIR's position that the Project will not impact salinity levels in the Delta.

The SJTA appreciates the opportunity to comment and encourages the Project proponents to revise the EIR in a manner that assures upstream water users that the Project will not impact their water supply and provides legally sufficient disclosure and analysis.

Very truly yours,

Valerie C. Kincaid

VCK/llw

RECIRC2605

From: Linda Wood <lwood@olaughlinparis.com>
Sent: Friday, October 30, 2015 2:56 PM
To: BDCPcomments
Subject: RDEIR/SDEIS Comments
Attachments: BDCP Comments - FINAL 10.30.2015.pdf

Please find attached comments on behalf of the *San Joaquin Tributaries Authority.* A hard copy has been sent via regular mail as well. If you have any questions, please do not hesitate to contact our office.

LINDA L. WOOD, LEGAL ASSISTANT
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RECIRC2606.

Deirdre Des Jardins
California Water Research
145 Beel Dr
Santa Cruz, CA 95060
831 423-6857

October 30, 2015

Sent via email

Comments on Water Supply and Water Quality modelling in the RDEIR/SDEIS

The RDEIR/SDEIS does not use the best available science in modelling of water supply and water quality, and there are some significant omissions in the analysis.

There have been significant advances in the understanding of climate change since the initial modelling for the BDCP / California Water Fix conveyance project from 2010-2012. These advances have been driven by data collected during recent, dramatic phenomenon, including the accelerated melting of ice sheets in the west Antarctic and Greenland and severe, prolonged droughts in the Southwest, Midwest, and California. Recent temperature deviations also make the lower sensitivity Global Climate Models, which predict less than 3 degrees of warming with a doubling of C02, appear increasingly unlikely.

There has been an accumulation of recent data and recent studies which points towards a much hotter, drier future, with potentially much greater increases in sea level rise. The most recent scientific literature and modelling points toward major risks to water supply and water quality in the Delta, which the proposed project will only partly address.

The RDEIR/SDEIS could have used this new information to get better understanding of the potential climate change impacts to hydrology in the Delta and its tributaries, and to sea levels in the Delta and San Francisco Bay. Incorporating this new information is essential to evaluating how the proposed project would be effective or fail in mitigating the effects of climate change. Instead, DWR has continued to use flawed estimates from the Draft EIR/EIS that show little change in either mean runoff or sea levels.

The RDEIR/SDEIS continues to assert that the new conveyance project will mitigate risks to water supply from climate change, but without defining the expected lifetime of the project. In the case of a $17 billion water supply project, the expected design lifetime is at least 50-100 years. The simple fact is that the project could easily fail to meet the objective of mitigating sea level rise within 50 years, and in the near term, of increasing water supply reliability.

The limitations to the proposed projected should have been more clearly analyzed and disclosed in the RDEIR/SDEIS.

RECIRC 2606

Sea Level Rise

In the 2009 Delta Reform Act, the legislature mandated that the Bay Delta Conservation Plan

"... shall not be considered for incorporation into the Delta Plan, unless it does all of the following... including a comprehensive review and analysis of...

....(C) The potential effects of climate change, possible sea level rise up to 55 inches, and possible changes in total precipitation and runoff patterns on the conveyance alternatives and habitat restoration activities considered in the environmental impact report.

The analysis in the RDEIR fails to meet the plain meaning of the statute with respect to the conveyance alternatives, in that it fails to provide a comprehensive review and analysis of potential effects of sea level rise up to 55 inches (1.4 meters) on the proposed conveyance. Instead, it uses values of 15 cm (6 inches) in the "Early Long Term" and 45 cm (18 inches) in the "Late Long Term" as input to all of the modelling. This input value was selected by DWR in previous modelling as the "most likely" values for these periods.

Estimates of sea level rise were an area of significant scientific uncertainty when DWR first did sensitivity studies for BDCP. At that time, there was significant uncertainty about potential contributions from melting of the polar ice sheets. But recent observations have shown that the rate of mass loss in the ice sheets in the west Antarctica and Greenland has been accelerating significantly. In December 2014, the American Geophysical Union accepted a paper by Tyler Sutterly and colleagues at UC Irvine and NASA JPL which found that the melt rate of glaciers in the Amundsen Sea Embayment in West Antarctica had tripled in the last decade.[1] The analysis was comprehensive and authoritative, evaluating and reconciling data from 4 different measurement techniques over 21 years.

For the National Climate Assessment in 2012, the Climate Change Program Office of the National Oceanic and Atmospheric Association (NOAA) used empirical estimates of the rate of acceleration of ice sheet melting to derive potential values of sea level rise as high as 2 meters (6.6 feet or 79 inches) by 2100.[2] NOAA recommended that the highest levels be used where there is little tolerance for risk, such as in a new infrastructure process. Unfortunately, the highest estimate of sea level rise estimated by DWR's modelling for the Draft EIR/EIS was about 94 cm (3.1 feet or 37 inches) by 2100, about 50% of NOAA's 2012 empirical estimate. DWR's 95% confidence projection of 3.9 feet or 46 inches by 2100 was about 60% of NOAA's empirical estimate. These values were used to derive the estimate of 15 cm (0.5 ft or 6 inches) of sea level rise by 2025, and 45 cm (1.5 ft or 18 inches) by 2060 used in the RDEIR/SDEIS.

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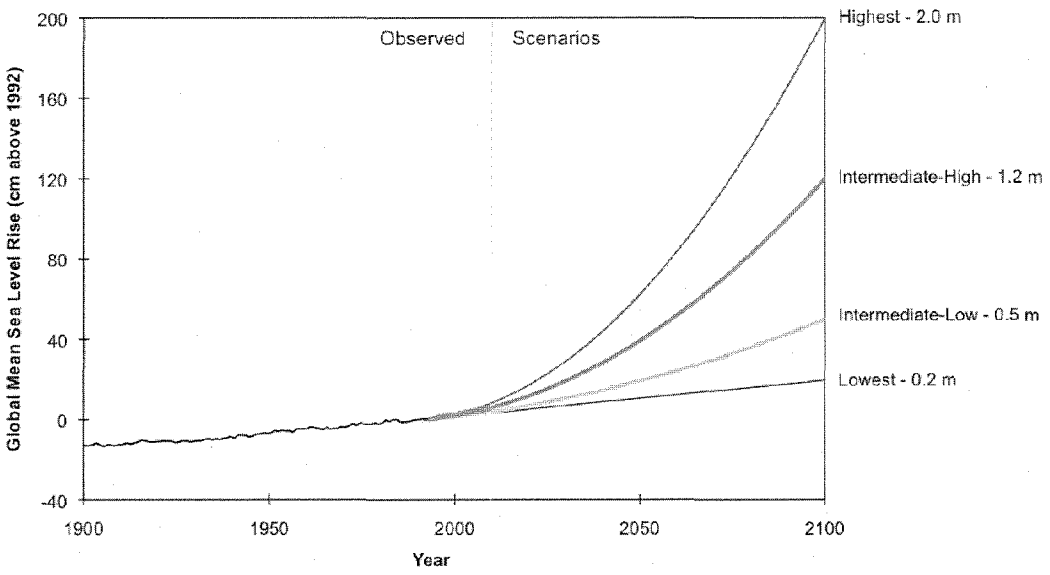
[1] Sutterley, T. C., I. Velicogna, E. Rignot, J. Mouginot, T. Flament, M. R. van den Broeke, J. M. van Wessem, and C. H. Reijmer (2014), Mass loss of the Amundsen Sea Embayment of West Antarctica from four independent techniques, Geophys. Res. Lett., 41, 8421–8428, doi:10.1002/2014GL061940. Available at http://dx.doi.org/10.1002/2014GL061940. Accessed on October 29, 2015. Incorporated by reference.

[2] NOAA Climate Program Office, Global Sea Level Rise Scenarios for the United States National Climate Assessment, December 2012. Available at http://cpo.noaa.gov/sites/cpo/Reports/2012/NOAA_SLR_r3.pdf. Accessed on October 29, 2015. Incorporated by reference.



1 Global Mean Sea Level Rise Scenarios, NOAA, 2012

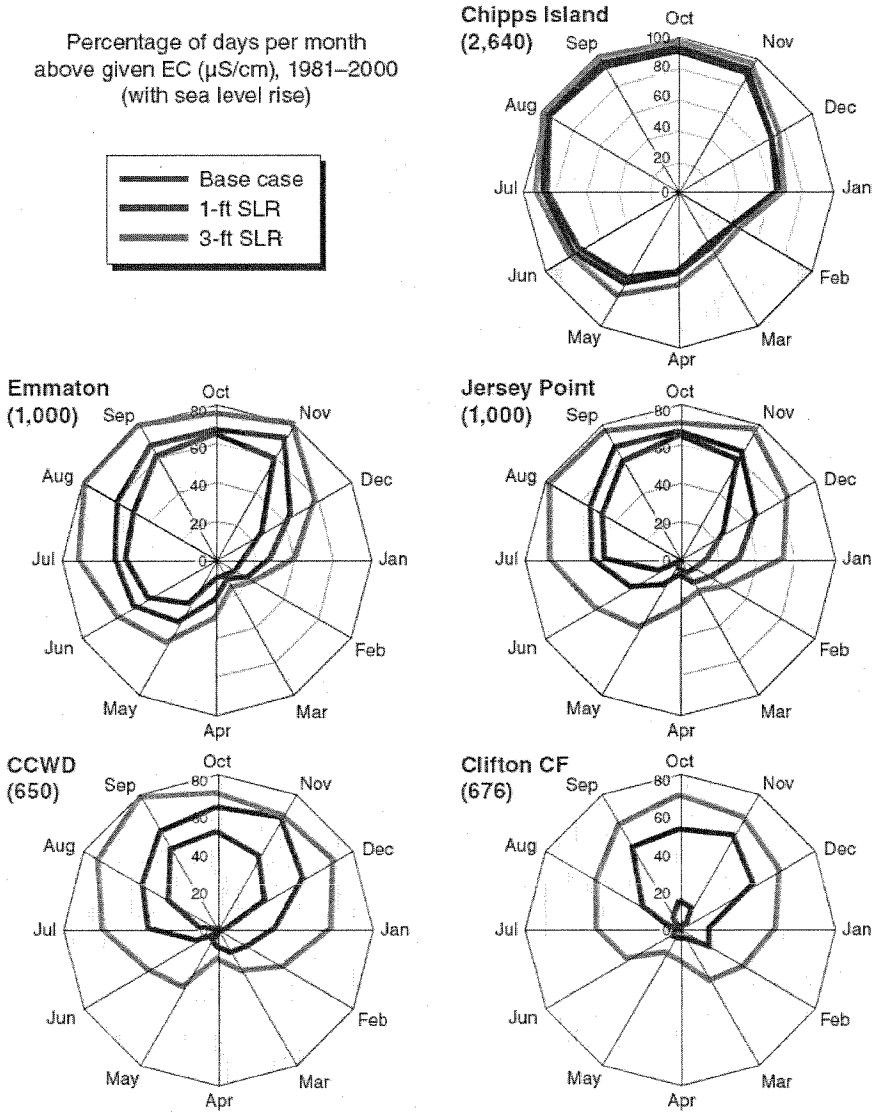
Unfortunately, NOAA's empirical estimate of 2 meters of sea level rise by 2100 is consistent not only with recent observations, but also with a recent study by James Hansen and 16 colleagues, published in 2015.[3] The authors looked at melting in the last interglacial period warmer than the current period, when temperatures were less than one degree C greater than the current period, and sea levels rose an estimated 3-5 meters. They used inferences from this period to construct models of nonlinear disintegration of the polar ice sheets in the Antarctic and Greenland. The models imply that the rate of ice sheet melting could double every 10, 20, or 40 years, with a corresponding rise in sea level of several meters within 50, 100, or 200 years. The authors conclude that recent ice sheet melt rates have a doubling time near the lower end of the range, meaning that we could see sea level rise of several meters within 50-100 years.

Sea level has a major effect on electrical conductivity in the Delta, and on associated levels of chloride and bromide. Sea level significantly affects water quality, both at the export pumps and in the Delta. The UNTRIM analysis in the Draft BDCP EIR/DEIS showing that EC rose linearly with sea level rise was relatively uninformative, since it did not indicate when levels of concern to agricultural users and urban water treatment plants would be reached. There was a better analysis in a 2008 study by Lund and Hanak et. al., who evaluated the effects of 1 foot and 3 feet of sea level rise on electrical conductivity in the Delta.[4] The graphs show electrical

[3]J. Hansen, M. Sato, P. Hearty, R. Ruedy, M. Kelley, V. Masson-Delmotte, G. Russell, G. Tselioudis, J. Cao, E. Rignot, I. Velicogna, E. Kandiano, K. von Schuckmann, P. Kharecha, A. N. Legrande, M. Bauer, and K.-W. Lo, "Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling, and modern observations that 2 °C global warming is highly dangerous," Atmos. Chem. Phys. Discuss., 15, 20059-20179, 2015. Available at www.atmos-chem-phys-discuss.net/15/20059/2015/. Incorporated by reference.

[4] Lund, J., Hanak, E., Fleenor, W. Bennett, W., Howitt, R., Mount, J., and Moyle, P., Comparing Futures for the Sacramento-San Joaquin Delta, Public Policy Institute of California, July 2012. Available at

conductivity rising above current limits at both Clifton Court and Contra Costa Water District from 60 to 80% of the time from October through December.



SOURCE: Appendix C.

NOTES: The figure shows average monthly values over the simulation period 1981–2000, with 1981–2000 levels of upstream reservoir operations and Delta exports. Shaded areas are periods when compliance with salinity standards is prescribed, although compliance levels vary across water year types.

2 Changes in EC with 1 and 3 feet of sea level rise, Lund and Hanak

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http://www.ppic.org/content/pubs/report/R_708EHR.pdf. Accessed on October 29, 2015. Incorporated by reference.

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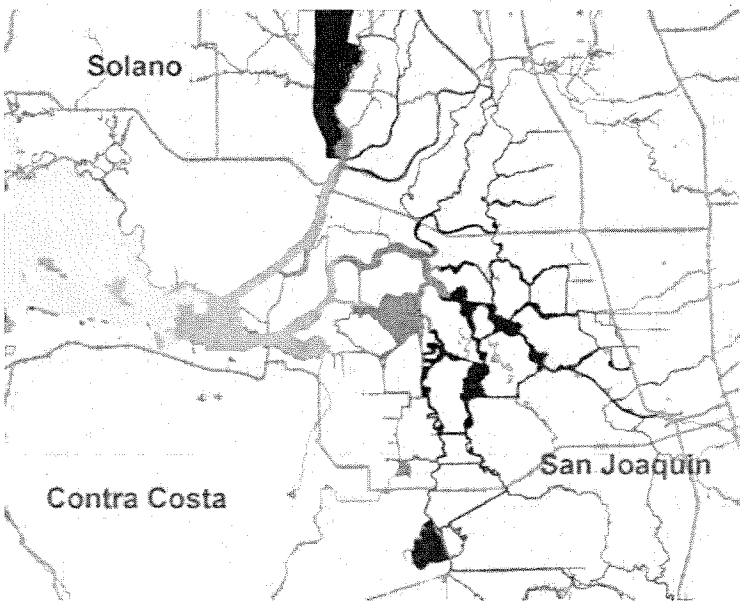
The RDEIR/SDEIS modelling shows that the proposed tunnels work well at providing continued high levels of exports without increased electrical conductivity or bromides at levels of sea rise of 45 cm (18 inches), which is expected to be reached by 2060. However, increasing outflows would be necessary to repel salinity as sea levels increase, reducing exports. However, the NOAA highest sea level rise scenario estimated that sea level rise by 2060 would be about 84 cm (33 inches.) The above EC graphs show that the "dual conveyance" option of switching between the North Delta and South Delta intakes would become increasingly infeasible at 3 feet of sea level rise.

The RDEIR does not provide modelling of the yield of the North Delta intakes when used as an isolated conveyance, which would become necessary during the latter half of the century under the highest sea level rise scenarios. It is likely that water exports would be reduced significantly if the South Delta intakes were severely impacted by salinity. At some point, salinity intrusion would be such that even the North Delta intakes would be affected during droughts and high tides. Modelling of salinity intrusion by the Army Corps of Engineers at 1.68 meters (5.5 feet) gives some idea of the maximum extent of salinity intrusion.[5] The intrusion would be greater if there were significant diversions of the Sacramento River during times of low flow and high tide.



3 Changes in EC in the Delta with 1.68 m sea level rise, Lu et. al.

[5] Lu, S., P. Craig, C. Wallen, Z. Liu, A. Stoddard, W. McAnnally and E. Maak. "An Extended-Delta Hydrodynamic Model Framework for Sea Level Rise Analysis to Support Resource Management Planning for the Sacramento-San Joaquin River Delta." 2012 Presentation to California Water and Environmental Modeling Forum (CWEMF 2012). Folsom, CA. Incorporated by reference.

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The RDEIR/SDEIS does significant disservice to water agencies in not evaluating or discussing the finite lifetime of the proposed conveyance project as a solution to sea level rise. In particular, there may be significant risks to urban water agencies in relying on the project as water supply for new housing and industrial infrastructure. The RDEIR should have included modelling so that water agencies could evaluate and compare the $17 billion project with alternatives which are not as vulnerable to continuing effects of sea level rise. Agricultural users that would be planting salt-sensitive permanent crops such as almonds, based on the projected water supply would also be affected.

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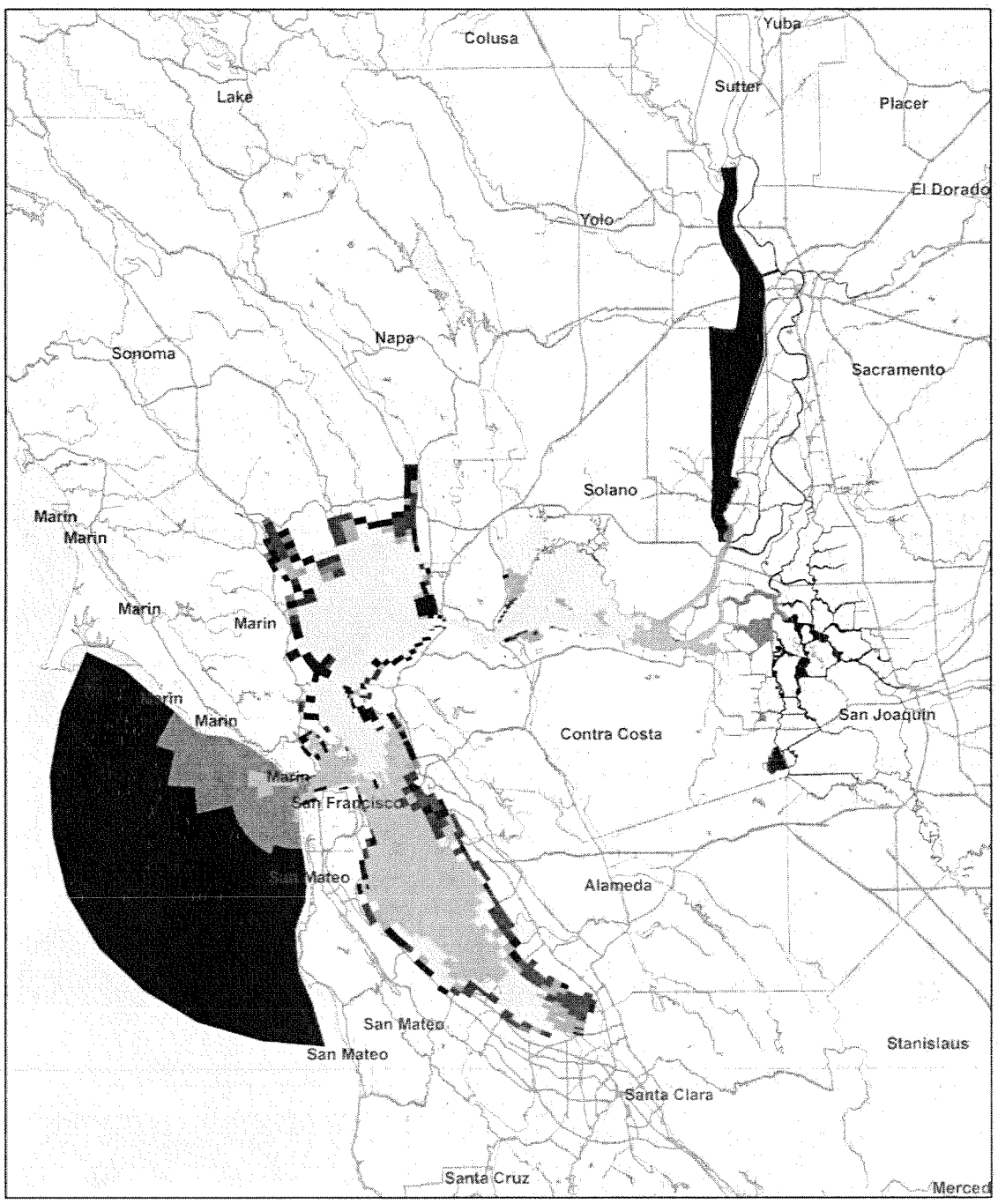

Legend

Max Salinity Difference (ppt)

- 0.00 - 1.00
- 1.01 - 2.00
- 2.01 - 5.00
- 5.01 - 10.00
- 10.01 - 15.00

Maximum Salinity Difference 100-year High SLR

0 3.5 7 14

Miles

4 Changes in Salinity in SF Bay and Delta with 1.68 m sea level rise, Lu et. al.

Levee Failure

The RDEIR/SDEIS states that the proposed conveyance will help protect the export water supply against levee failure. However, there is no modelling of the operation of the conveyance in the event of levee failure. Previous modelling for the Delta Risk Management Study and by Lund and Hanak et. al. showed that there would be significant salinity intrusion in the event of failure of western levees, or failure of multiple islands in the Central Delta, even without sea level rise. The graphs of changes in EC from Lund and Hanak et. al. are shown on the next page.

It is clear that levee failure would significantly change hydrodynamics in the Delta, providing deeper channels and greater transport of salt water deep into the estuary. In the case of levee failure due to high sea level rise, the effects would be additive with the effects of sea level rise. In the event of major and irreversible salinity intrusion, the South Delta intakes could be permanently affected, and the yield of the conveyance could be significantly reduced. Yet this possibility is not even discussed in the RDEIR.

One of the original justifications for habitat restoration in the Delta was the planned acquisition and flooding of the most vulnerable islands as sea levels rose. This plan has clearly been abandoned, and there remains insufficient funding to repair and upgrade levees in the Delta. In the highest sea level rise scenario, this essentially assures a sequence of unplanned levee failures, as the weakest levees fail and put stress on adjacent islands.

The failure of the RDEIR/SDEIS to do any modelling of the effects of high sea level rise and multiple levee failure on operations of the conveyance and on water supply is a major and serious flaw in the analysis of a $17 billion project. Since one of the core purposes of the project is mitigation of risk to water supply from these two scenarios, the RDEIR / SDEIS fails severely in this respect.

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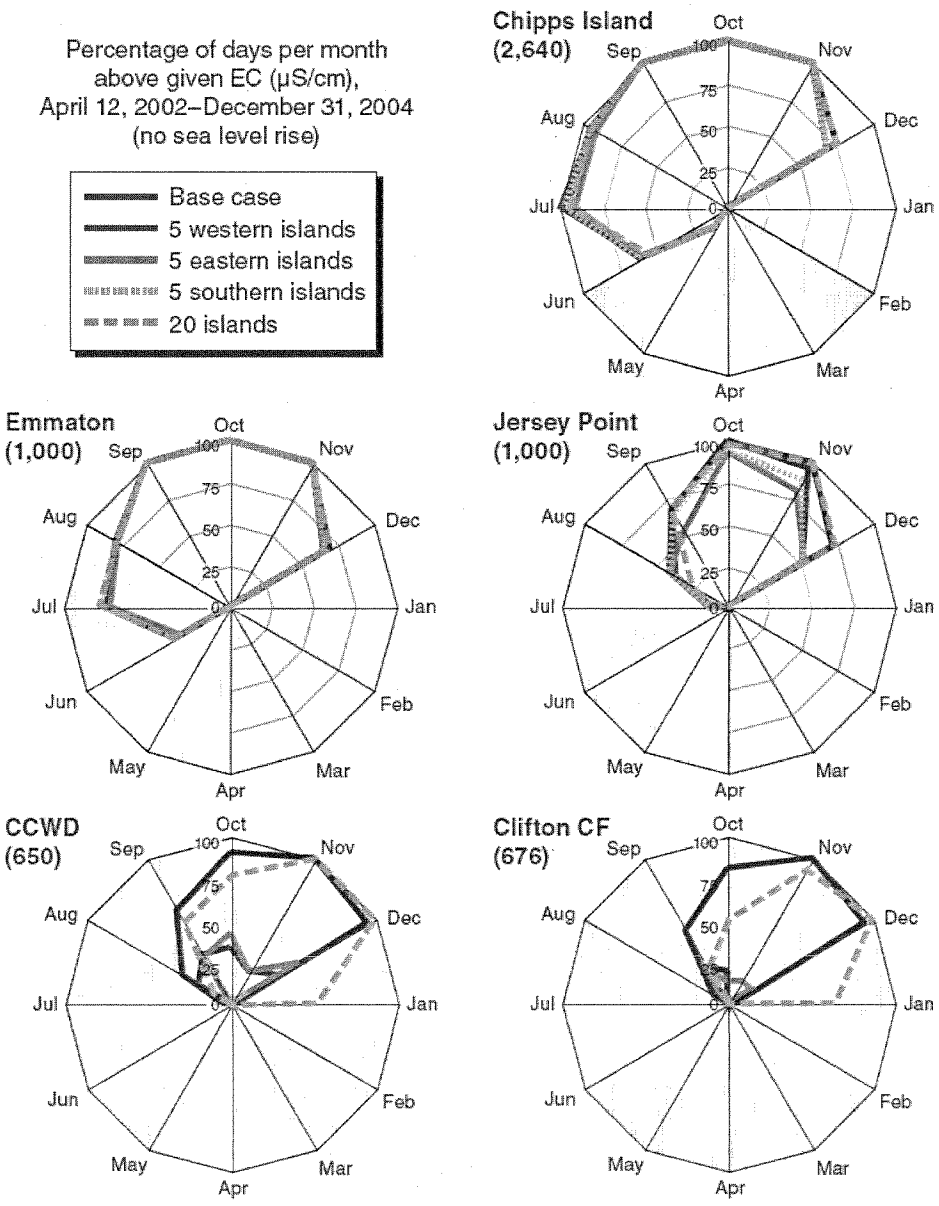

SOURCE: Appendix C.
NOTES: Shaded areas are periods when compliance with salinity standards is prescribed, although compliance levels vary across water year types. At Chipps Island and Emmaton, all five scenarios essentially overlap.

Figure 4.5—Effects of Island Flooding on Delta Salinity

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Changes to runoff

The modelling for the RDEIR/DEIS uses the Q5, or Central Tendency runoff projections for inputs to all hydrological modelling. The Central Tendency scenario considers the ensemble of all 112 Global Climate Models / Greenhouse Gas Emissions Scenarios as equally likely, and computes the Central Tendency estimate after pruning.

The problem is that the recent research shows that the Global climate Change Models (GCMs) with lower sensitivity, that is, reduced temperature increases for a given increase in C02 emissions, are increasingly unlikely. A recent study by Sherwood, Bony, and Dufresne [6] found that

> ... The mixing inferred from observations appears to be sufficiently strong to imply a climate sensitivity of more than 3 degrees for a doubling of carbon dioxide. This is significantly higher than the currently accepted lower bound of 1.5 degrees, thereby constraining model projections towards relatively severe future warming.

Similar results were found in a 2012 study by Fausilio and Treberth, which compared current observations of May through August relative humidity with model projections.[7]

This means that a significant number of the GCMs in the 112 model ensemble used by DWR in formulating the Q5 runoff projections have likely been shown to be incorrect by recent research.

Furthermore, as shown in an analysis by Daniel Cayan et. al. for the California Climate Change Assessment, most of the models which predicted increasing precipitation with increasing greenhouse gas levels were low sensitivity models. The graph on the next page, from that analysis, shows the differences in projected precipitation change over California, between the B1 (low GHG emissions) and A2 (High GHG emissions) scenarios, for 25 models. Of the low sensitivity models, 55% project increases in precipitation with increasing GHG levels.[8] These low sensitivity models are looking increasingly unlikely.

Recent research shows that the fundamental assumption that wetter and drier futures were equally likely should have been re-examined.

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6 S.C. Sherwood, S. Bony, and J. Dufresne, "Spread in model climate sensitivity traced to atmospheric convective mixing", Nature, vol. 505, pp. 37-42, 2014. http://dx.doi.org/10.1038/nature12829. Incorporated by reference.

7 J.T. Fasullo, and K.E. Trenberth, "A Less Cloudy Future: The Role of Subtropical Subsidence in Climate Sensitivity", Science, vol. 338, pp. 792-794, 2012. http://dx.doi.org/10.1126/science.1227465. Incorporated by reference.

8 Cayan, D. et. al., California Climate Scenario Asssessment Team, Model Page. Incorporated by reference. Available at http://meteora.ucsd.edu/cap/cccc_model_prelim.html#contents

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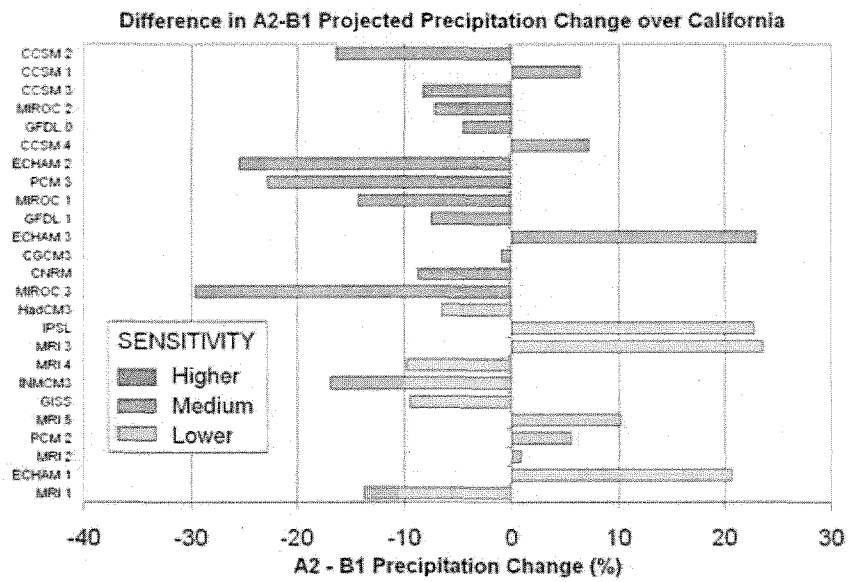

6 Global Climate Model Sensitivity vs Precipitation Change, Cayan et. al.

The problem with the Q5 Central Tendency projection was exacerbated further by the pruning that was done on the ensemble of Global Climate Models prior to computing the Central Tendency. The pruning throws out the 25% driest models, which projected the greatest decrease in precipitation, and the 75% warmest models, which projected the greatest increase in evapotranspiration.

The graph on the next page, from the BDCP Draft EIR Appendix 5A-2, shows the extent of the model pruning for runoff in the Feather River Basin, and how the pruning eliminates models which predict drying greater than about 5%. Unfortunately, the models which predict drying greater than 5% in the current period were likely the same models which predicted the recent severe droughts in the Southwest and California. (Q1-Q4 will be explained on the next page.)

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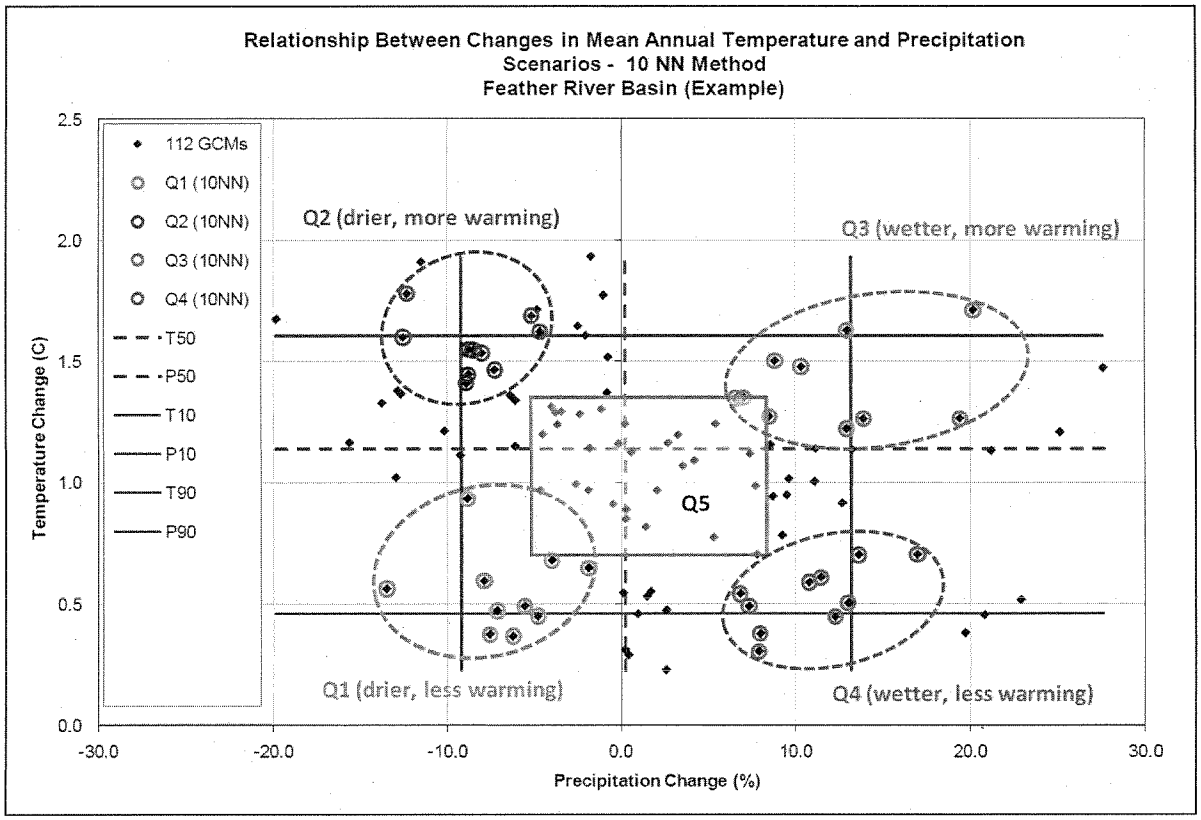


Figure 5.A.2.2-1. Example of Downscaled Climate Projections and Sub-Ensembles Used for Deriving Climate Scenarios (Q1–Q5), Feather River Basin at 2025[1]

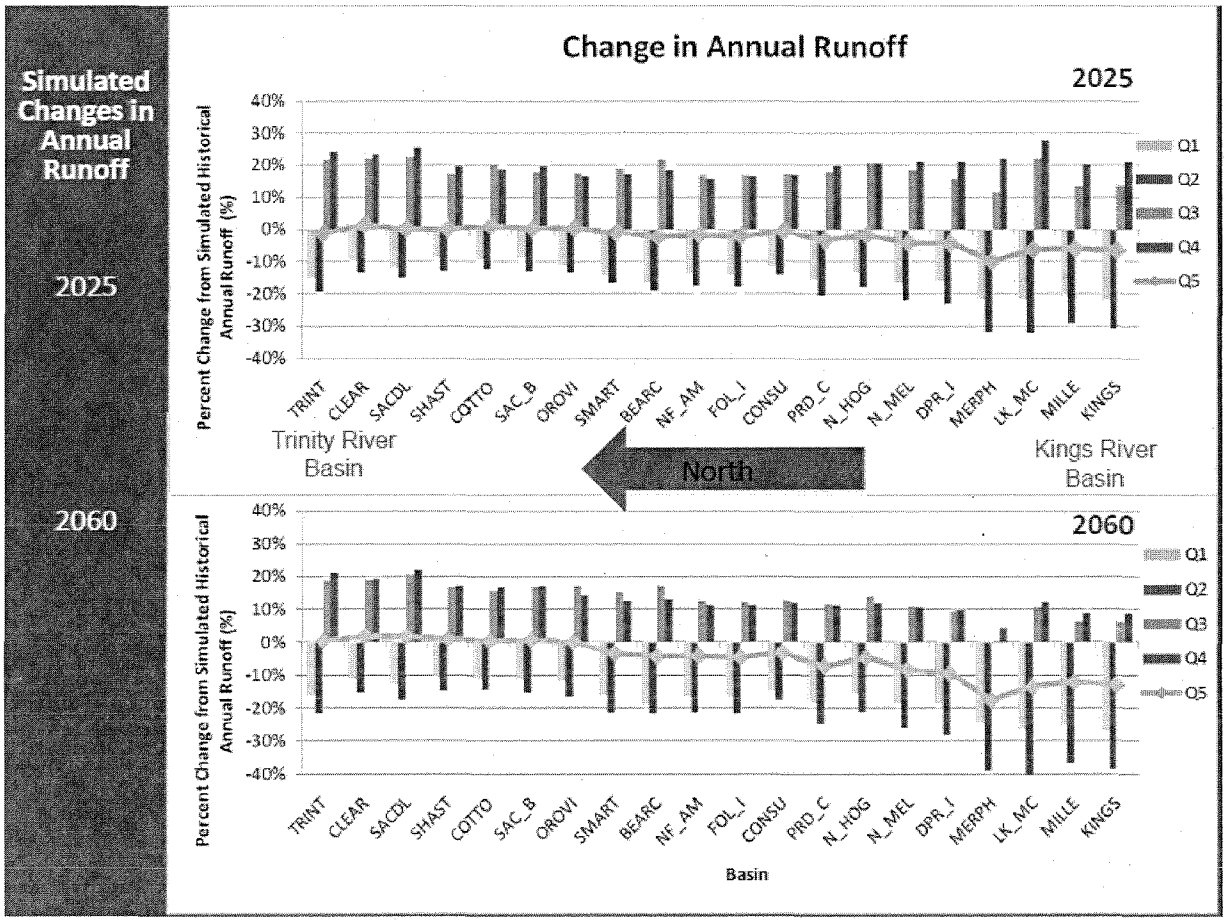
The Q1-Q4 projections were used in prior modelling for BDCP. As I indicated in previous comments, these projections should have been used in the RDEIR/SDEIS to estimate the worst case decrease in runoff and the absolute risk to water supply.

In prior BDCP modelling, the set of 112 GCM/GHG scenario projections were broken four different quartiles, based on the mean projected change in temperature and mean projected change in precipitation for the ensemble.

- Drier, less warming [Q1, orange]
- Drier, more warming [Q2, red]
- Wetter, more warming [Q3, green]
- Wetter, less warming [Q4, dark blue]

Each quartile was used to produce an ensemble model, after pruning off the 10% driest and 10% wettest models. These models projected potentially much greater changes in runoff. The graph below shows the estimated changes in runoff for the four quartiles for different reservoirs

on the Sacramento and San Joaquin Rivers, going from Trinity in the north to Millerton and Kings in the San Joquin Valley.[9]



The Q1-Q4 estimates from the prior BDCP modelling showed significant reductions in runoff, even by 2025, worse in the San Joaquin Valley and the Trinity basin. The warmest, driest quartile (Q2) has the greatest reduction in both precipitation and evapotranspiration, and thus the greatest reduction in runoff. The Q1 and Q2 models showed reductions in average runoff to the major reservoirs on the Sacramento River – Shasta, Oroville and Folsom, of over 10% by 2025, and almost 20% to Trinity. As recent experience has shown, because of senior water rights on the Sacramento and Feather Rivers, even a 10%-20% reduction in flow in the Sacramento watershed can result in much greater reductions in exports, with a huge impact on water supply.

The RDEIR / SDEIS asserts that the proposed conveyance project increases water supply reliability, but without doing any analysis of the potential for a major and absolute decrease in

[9] Jamie Anderson, presentation on Climate Change Approaches, Department of Water Resources, March 2012. Available at http://www.water.ca.gov/climatechange/docs/CCTAG_climate_change_approaches%20final_3-28-12_Jamie%20Anderson_with%20extra%20slides.pdf. Incorporated by reference.

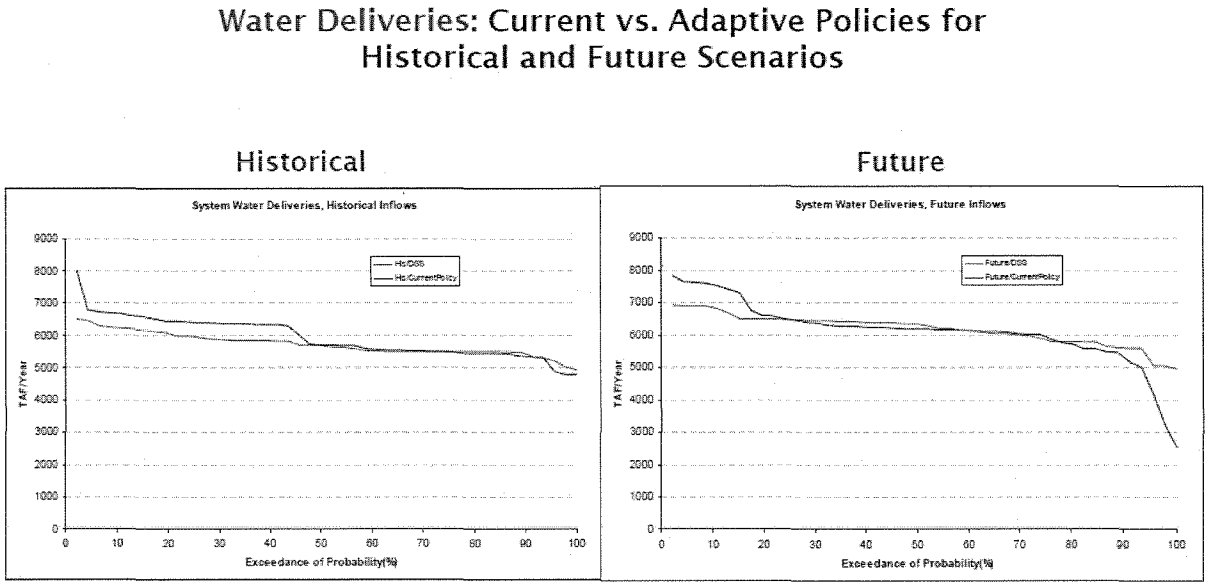
water yield over current conditions. This information is essential for water agencies in planning and in evaluation of the proposed project. It could and should have been provided using model runs with inputs from Q2.

The No Action Alternative

The RDEIR/SDEIS attempts to show that the proposed conveyance project improves water supply reliability by comparing the project with a "No Action Alternative," which is worse in water supply variability and reservoir drawdown.

However, previous modelling, funded by PIER, shows that these conclusions may be largely dependent on operating rules for the system, coded into the CALSIM II models used in the RDEIR/SDEIS and the BDCP Draft EIR/EIS.

In 2009, Aris Georgakakos built a model of the current reservoir and conveyance system. He showed that adaptive management of the system, using stochastic forecasts of runoff, could greatly improve water reliability, both in reducing shortages and meeting environmental targets.[10] Some of the graphs from the presentation are shown below.



7 Performance of current system in historical and future time period, Georgakakos

[10] Reducing Vulnerability with Probabilistic Hydrological Forecasts and Modern Decision Support Systems, Aris Georgakakos. Presented at the Sixth Annual California Climate Change Research Symposium, 2009. Incorporated by reference.

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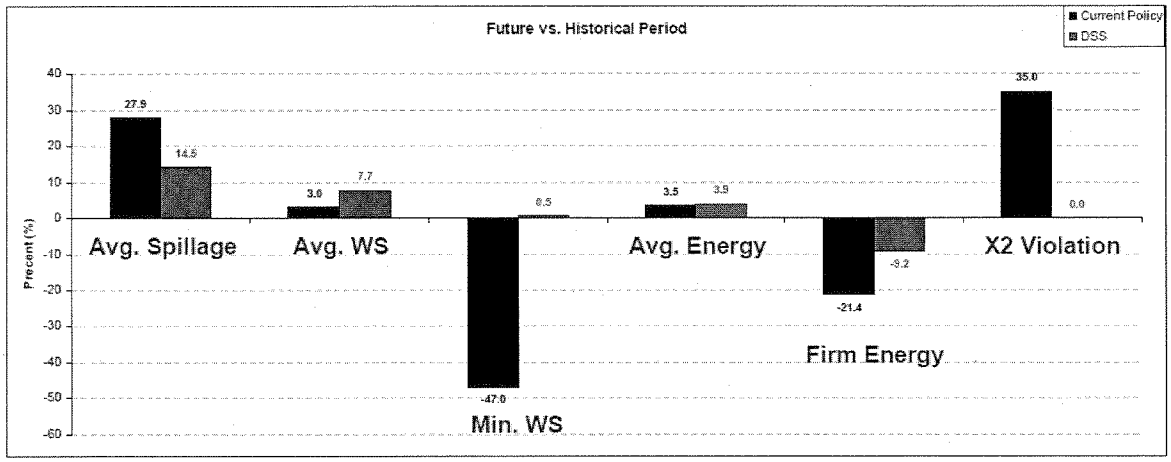
Performance Differences (%) of Future relative to Historical Scenario



8Performance differences of future relative to historical scenario, Georgakakos

The fundamental shift in Georgakakos proposed operations is using forecasts to take less risk with reservoirs in meeting export targets. This results in much less variability in deliveries.

The RDEIR/SDEIS shows significant reductions in End of September reservoir storage in the planned future operations of the project, from 340 to 540 thousand acre feet in Shasta, and from 340 to 580 thousand acre feet in Oroville. This produces a drawdown in End of September storage in the system of over a million acre feet. There were multiple protest letters submitted from Northern California Water agencies about the highly inaccurate assumptions about reservoir operations in both the proposed operations of the conveyance and the "No Action Alternative." These objections should have been addressed in the RDEIR/SDEIS.

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From: Deirdre Des Jardins <ddj@cah2oresearch.com>
Sent: Friday, October 30, 2015 11:33 PM
To: BDCPcomments
Subject: Please accept these comments from California Water Research
Attachments: CWR RDEIR comments.pdf

Thank you

Deirdre Des Jardins
California Water Research
ddj@cah2oresearch.com