



# LEAGUE OF WOMEN VOTERS® OF CALIFORNIA

October 30, 2015

BDCP/California WaterFix  
Comments  
P. O. Box 1919  
Sacramento, CA 95812

## **RE: Comments on RDEIR/SDEIS**

The League of Women Voters of California (LWVC) appreciates the opportunity to comment on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Bay Delta Conservation Plan/California WaterFix, the Administration's plan to build twin tunnels under the Sacramento-San Joaquin Delta.

The LWVC has long-standing policies supporting nonstructural alternatives for water supply in California. With respect to the Delta, these policies align with principles established by the 2009 Delta Reform Act that are now part of the California Water Code and the Public Resources Code.

Were the LWVC to support any new infrastructure for conveying water through or around the Sacramento-San Joaquin Delta, we would have to be persuaded that the proposed infrastructure conformed to League policies, such that

1. realistic limits have been placed on the amount of water to be exported
2. strategies such as water conservation and wastewater reclamation have been employed and will continue to be employed to the fullest extent by both agricultural and urban users to minimize reliance on water exported through the Delta
3. federal and state entities intend to abide by high water quality standards in the Delta and the estuary
4. the conveyance plan includes strong, binding environmental safeguards, including reserving stream flows for protection of fish and wildlife and their habitat, and for other in-stream uses
5. the economic, social, and environmental costs and benefits of the project have been fully assessed.

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In all these areas, the RDEIR/SDEIS fails not only to meet the League's criteria for supporting new conveyance infrastructure in the Delta but also to conform to established law. **We therefore cannot support the Administration's California WaterFix.**

Below, we consider these points in order, with references where applicable to the California Water Code.

**1. Have realistic limits been placed on the amount of water to be exported from the Delta? (Also see Water Code § 85020(a): “Manage the Delta's water and environmental resources and the water resources of the state over the long term.”)**

Any visionary plan for California's future must begin with the recognition that the State, through the State Water Resources Control Board, has approved at least five acre feet of consumptive water rights claims for every acre foot of unimpaired flow in the Sacramento and San Joaquin River basins.<sup>1</sup> California has based the world's eighth largest economy on heavily over-allocated, “paper” water, which cannot be relied upon even in an average water year, irrespective of limitations placed on water exports to protect endangered species in the Delta. The gap between expectations and supplies has become more stark as we experience serious drought in California and recognize that our water storage and delivery system was designed during a century—the 20th—that was unusually wet.<sup>2</sup>

Water planners in 1960 understood that the system could provide a “usable surplus” for export only in the range of 3 million acre feet (MAF) per year on average without the addition of flows from North Coast rivers.<sup>3</sup> With the addition of flows from the Trinity River, the only north coast river that was actually developed, the average surplus available for export would be about 3.5 MAF. This level of exports would leave enough water in the Delta “common pool” to provide for the needs of the people and the ecosystem in the Delta and the Estuary and to maintain a freshwater barrier against salinity intrusion, which negatively affects exports as well as Delta agriculture and fisheries.

No subsequent experience has shown this initial analysis to be unrealistic. However, rather than redrafting water contracts to adjust for modifications in supply, officials through the end of the 20th century and into the 21st continued to honor those contracts, relying on water that was supposed to be available for export only when it was surplus to water needs in the Delta itself.<sup>4</sup>

WaterFix's Alternative 4A, the preferred alternative, involves three new intakes in the North Delta, each with a 3,000 cubic foot per second (cfs) capacity. The plan projects an average annual yield of 4.9 MAF. This is clearly unrealistic, even given pre-drought conditions.

The recirculated documents also analyze two alternatives: Alternative 2D, a 5-intake, 15,000 cfs facility—even more unrealistic; and Alternative 5A, a single-intake 3000-cfs facility. Only Alternative 5A appears to acknowledge realistic limits on the amount of water that can be exported from the Delta. However, Alternative 5A is not a good-faith alternative for long-term reduction in exports. It uses the same twin (dual-bore) tunnels intended for use by the three-intake preferred alternative.<sup>5</sup> Once the two 30-mile-long tunnels—each 40 feet in diameter and up to 150 feet underground—have been constructed, one or two additional intakes could be added later. Building dual-bore tunnels doesn't make sense if the long-term plan is to transfer no more than 3000 cfs, which would allow a maximum diversion of around 2.2 MAF per year.

**2. Have strategies to reduce reliance on the Delta been fully implemented? (Also see Water Code § 85020(d): “Promote statewide water conservation, water use efficiency, and sustainable water use.”)**

The Delta Reform Act of 2009 sets forth the policy of the state “to reduce reliance on the Delta in meeting California’s future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency” (California Water Code § 85021).

The difference between the 3-3.5 MAF per year originally anticipated to be available for export and the 5 MAF actually exported on average,<sup>6</sup> to the detriment of fisheries and other non-export uses, has fueled both urban and agricultural expansion in California, creating rigid demands for surface water that cannot be met reliably over the long term in a state that has experienced drought nearly 20 percent of the time in the last nine decades.<sup>7</sup> WaterFix continues the strategy of honoring contracts that over-allocate available water. The project’s purpose statement<sup>8</sup> makes it clear that the Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (USBR) intend to restore and protect water supplies of the State Water Project (SWP) and Central Valley Project (CVP) south of the Delta consistent with contractual obligations.<sup>9</sup>

By protecting and restoring contractual amounts, even though only “when hydrologic conditions result in the availability of sufficient water,”<sup>10</sup> WaterFix appears to violate the Delta Reform Act’s mandate to reduce future dependence on Delta water. Availability of sufficient water has not governed exports in the past.

The Natural Resources Defense Council and the Pacific Institute have estimated that each year, California uses 6 MAF more than the state’s rivers and aquifers can sustainably provide; but through water reuse, stormwater capture, and agricultural and urban efficiency, California could save up to 14 MAF each year.<sup>11</sup> No conveyance project should proceed in the absence of a data-driven record of 1) water consumption by entities receiving water exported through the Delta and 2) the efforts of those entities to reduce consumption and move toward sustainability.

**3. Do federal and state entities intend to abide by high water quality standards in the Delta? (Also see Water Code § 85020(e): “Improve water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta.”)**

Delta water quality affects the lives and livelihoods of over half a million people in the Delta region alone, and it affects the health of fisheries and of fish species that evolved to take advantage of the estuary’s annual and seasonal variations in salinity and flow. Since the 1970s, with increases in upstream storage and Delta exports that reduce freshwater outflow to the Bay, salt water has stayed in the Delta longer (residence time has increased), causing a dramatic decline in water quality. The RDEIR/SDEIS offers no

assurance that the residence time of salt water in the Delta will decline and water quality will improve, especially in dry years, as the tunnels divert the largest remaining source of fresh water, the Sacramento River. It offers no assurance that the water projects will be operated differently in the future than they have been in the past to comply with salinity standards.<sup>12</sup>

With operation of the twin tunnels, Sacramento River water now conveyed through the Delta would be replaced in various locations by other source water. One of those sources is the San Joaquin River, which provides both a lower flow and poorer quality water than the Sacramento River. Increasing the portion of San Joaquin River water in the Delta relative to Sacramento River water will lead to more concentrated pesticides reaching the central and western Delta and, with increased residence times, staying there longer.<sup>13</sup>

In addition, reducing the proportion of fresh Sacramento River water relative to San Joaquin River water in the Bay-Delta Estuary will lead to increased concentrations of selenium, a trace element that is necessary to human health at normal levels but is toxic at elevated levels.<sup>14</sup>

Algae occur naturally in all fresh and marine water environments, and most species are harmless under normal circumstances. However, some cyanobacteria (blue-green algae) that use photosynthesis can “bloom,” growing rapidly when flows decrease and temperatures rise in Delta waterways. This “bloom” can dramatically reduce or completely consume dissolved oxygen in the water, suffocating fish and other organisms. Cyanobacteria can produce cyanotoxins that are harmful to aquatic life and can affect taste, odor, and safety of drinking water, degrading waterways used for recreation and drinking water supply. Algal blooms are expected to increase with operation of WaterFix.<sup>15</sup>

Legacy mercury left over from the Gold Rush is found in sediments throughout the Sacramento Valley, the Bay-Delta Estuary, and San Francisco Bay. When mercury is disturbed, it can be taken up by algal cells or phytoplankton, entering the food web and eventually affecting fish and the humans who consume them. In 2012, the EPA listed mercury in six reaches of the San Joaquin River.<sup>16</sup>

Altogether, the EPA lists 145.5 miles of the San Joaquin River as impaired for multiple pollutants, which is worrisome when WaterFix intends to rely so heavily on the San Joaquin to replace water currently supplied by the Sacramento River.

It is not clear that operation of WaterFix can ensure decent water quality even for state and federal export users, and it will certainly lead to a decline in water quality for other users.

**4. Does the plan include strong, binding environmental safeguards? (Also see Water Code § 85020(c): “Restore the Delta ecosystem, including its fisheries and wildlife, as the heart of a healthy estuary and wetland ecosystem.”)**

State and federal permitting agencies made it clear in their comments on the Bay Delta Conservation Plan (BDCP) that they were not convinced that habitat restoration and facility operation under the BDCP would meet the standards necessary for water contracts based on 50-year take permits. To move forward with the tunnel plan, DWR and the USBR have not included in WaterFix the habitat restoration and related conservation measures that were part of the BDCP, except to the extent required for mitigation—a much lower standard and, at about 2,300 acres,<sup>17</sup> an exceptionally modest commitment compared to the 100,000 acres of habitat restoration proposed under BDCP.

Habitat restoration measures are to be implemented instead by the Resources Agency in a separate program, EcoRestore, and the RDEIR/SDEIS obviously is not required to include any analysis of that program. EcoRestore involves about 30,000 acres of habitat restoration and protection, a 70 percent reduction in habitat from that proposed by BDCP.<sup>18</sup>

In 2008 and 2009, the U. S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) issued biological opinions (BiOps) that led to measures to restore habitat in the Delta.<sup>19</sup> These restoration measures will go forward with or without the tunnels, even under the No Action Alternative.

The environmental measures under WaterFix consist primarily of activities intended to offset adverse effects of tunnels construction.<sup>20</sup> The RDEIR/SDEIS asserts that these measures, along with proposed adaptive management of the project (adapting operations to meet environmental objectives), constitute “de facto” means of meeting state and federal environmental protection guidelines.

However, it is not clear that National Environmental Protection Act (NEPA) or Endangered Species Act requirements have actually been met by the process that produced the RDEIR/SDEIS. The Bureau of Reclamation has not taken the steps required for formal consultation with the federal fisheries agencies, a process that would include identifying “reasonable and prudent alternatives” (RPAs) for meeting environmental objectives.<sup>21</sup>

Operations of the SWP and the CVP have modified critical habitat of fish species in the Delta by reducing flows, increasing the residence times of water, and increasing water temperature. Operation of the twin tunnels will perpetuate this pattern and worsen the effects. Substituting habitat for adequate freshwater flows cannot contribute to the recovery and delisting of listed species.

The RDEIR/SDEIS should include analysis of reasonable and prudent alternatives, including alternatives that increase flows through the Delta to San Francisco Bay by reducing exports. In the absence of these reasonable and prudent alternatives to the twin tunnels, the public does not have the information necessary during this public comment period to analyze the WaterFix plan in a meaningful way.

**5. Have the economic, social, and environmental costs and benefits of the project been fully assessed? (Also see Water Code § 85020(b): “Protect and enhance the unique cultural, recreational, and agricultural values of the California Delta as an evolving place”; § 85020(f): “Improve the water conveyance system and expand statewide water storage”; and § 85020(g): “Reduce risks to people, property, and state interests in the Delta by effective emergency preparedness, appropriate land uses, and investments in flood protection.”)**

Since the inception of BDCP, planners have assumed economic benefits of isolated conveyance in the Delta and have essentially dismissed costs, arguing that exporters themselves, not taxpayers and the general public, would be paying for the project through rates charged to water users. Opponents have argued that this project has impacts far beyond its immediate beneficiaries.

In response to public pressure, the water contractors in 2013 paid for a benefit-cost analysis by ICF International and the Brattle Group. This analysis identified benefits based on the reliability of deliveries that could be expected with 50-year take authorization (permits limiting future regulatory actions to protect fish that would be justified by the conservation plan portion of BDCP), and with a reduction in seismic risk to Delta water supplies—for example, an earthquake in the Delta interrupting export deliveries. According to this analysis, the state and federal water contractors could expect a net benefit of \$4.7 billion from BDCP.<sup>22</sup>

ICF/The Brattle group estimated cumulative 50-year benefits (10-year planning and construction period, 40-year operating period) in three categories: water supply reliability – 87 percent; water quality – 10 percent; and reduced seismic risk – 3 percent.<sup>23</sup>

When planners removed the conservation plan elements from the twin tunnels project as WaterFix, they removed by far the largest benefit for the state and federal contractors: the protection from environmental restrictions that might have been expected with 50-year take authorization.

Reduced seismic risk represented the smallest benefit to water contractors—3 percent—under the 2013 analysis. Consultants were unable to quantify benefits of BDCP relative to flood risk.<sup>24</sup> Earthquakes are always a danger in California, but it is difficult to demonstrate that the earthquake risk to levees in the Delta is higher than it is to aqueducts and reservoirs that make up the rest of the state’s water transfer system. Nor is it clear that disruptions to water deliveries in the event of levee failures in the Delta would be economically crippling. Without the tunnels, a worst-case scenario predicts a shortage of less than half of the 10 MAF per year reduction in surface water supplies caused by the current drought—a reduction that the state has dealt with, while nonetheless managing to grow the state’s economy, farm revenue, and employment.<sup>25</sup>

Reliability and reductions in seismic risk aside, the twin tunnels might still be worth the investment to the state and federal water contractors if they could expect to get more water at least part of the time. But WaterFix cannot provide that assurance.

According to an early estimate by Dr. Jeff Michael, Director of UOP's Center for Business and Policy Research, the average annual incremental water yield with the tunnels compared to "No Action" is only 257,000 acre feet per year.<sup>26</sup> Calculations based on one table in the RDEIR/SDEIS show a long-term increase under the most favorable scenario of only 121,000 acre feet per year over existing conditions.<sup>27</sup> Elsewhere, the RDEIR/SDEIS says that "Delta exports would remain similar or increase in wetter years and decrease in drier years" with the tunnels, and "[total] long-term average annual Delta exports . . . would decrease as compared to exports under Existing Conditions. . . ."<sup>28</sup>

Statements such as this do not inspire confidence that WaterFix will result in improved exports worth the currently estimated cost: almost \$15 billion, exclusive of interest and financing costs.<sup>29</sup> The economic benefits do not seem to outweigh the costs. The twin tunnels project pencils out only if contractors figure out how to deliver more water than the RDEIR/SDEIS projects. This does not bode well for sustainable management of the Bay-Delta Estuary and its tributaries.

Farmers receive the majority of export water and might be expected to assume the majority of the project cost, although they will get very little additional water. They will have very uncertain information on which to base cropping decisions. Despite the fact that agriculture historically uses much more managed surface water than do urban users, urban water districts can be more flexible in their planning, so Metropolitan Water District and the Santa Clara Valley Water District may be the main beneficiaries of WaterFix.

Reviewers of the RDEIR/SDEIS can only speculate on costs and benefits because no financial plan or benefit-cost analysis of WaterFix has been made available.

Regarding economic, social, and environmental costs and benefits to the Delta, the preferred alternative under BDCP was criticized for the negative impact of tunnel facilities and operations on the Delta as Place. The preferred WaterFix Alternative 4A incorporates changes intended to address some of these concerns.<sup>30</sup> However, the WaterFix tunnels plan still elevates potential economic benefits to water users south of the Delta over the social, economic, and environmental needs of the Delta region, including the estuary and portions of the San Francisco Bay area. The Delta Counties Coalition of the five Delta counties (Sacramento, Yolo, Solano, Contra Costa, and San Joaquin) protested nearly 50 "significant and unavoidable" adverse impacts to the Delta from construction and operation of the twin tunnels.<sup>31</sup>

Under WaterFix, the state and federal water projects would continue to rely on exports from the south Delta, especially in dry years.<sup>32</sup> The problems with south Delta exports are already well known, not only because of the impact on fish but because of compromised water quality affecting human water users in the entire Bay-Delta Estuary. Scientific

uncertainty regarding the impact of operations will be addressed through a process of adaptive management, but the process as outlined does not allow for timely adjustments in operations.<sup>33</sup> The Independent Science Board report has dealt particularly well with the adaptive management shortcomings of the RDEIR/SDEIS.<sup>34</sup>

Flow criteria are applied seasonally (month by month) according to five water-year types.<sup>35</sup> However, the type of water year is not reliably known until the end of the water year. This practice does not protect the Delta from shipments of water south during what turns out to be a very dry year.

The Delta Reform Act called for improving the water conveyance system but did not specify how that should be done. DWR and the USBR have focused on tunnels under the Delta as the best way to improve the water conveyance system. One alternative not considered by WaterFix for improved Delta conveyance—investment in levees—would also have benefits for emergency preparedness and flood protection in the Delta as called for in the Water Code.

Chapter 5 of the *Economic Sustainability Plan* produced by the Delta Protection Commission, as required by the 2009 Delta Reform legislation, thoroughly analyzed the condition of levees in the Delta and their actual vulnerability to the kinds of flood and earthquake events that are to be expected in California. This *Plan* found that investments in levee improvements to create seismically resilient levees “have created significantly improved Delta levees through modern engineering and construction, making obsolete the historic data that is still sometimes used for planning or predicting rates of levee failure”.<sup>36</sup> The *Economic Sustainability Plan* estimates that improvements to levees that would protect both export supplies and the people and property in the Delta itself could be done with a state investment of \$2 billion to \$4 billion. That figure should be compared to an estimated cost of nearly \$17 billion just to construct the tunnels.

Delta levees will need rehabilitation even if the tunnels are built because \$20 billion in infrastructure (railroads, gas lines, power facilities, public highways), and four million people in the Delta need protection. The *Economic Sustainability Plan* found that if a hypothetical catastrophe such as a flood or an earthquake were to occur, only 20 percent of the economic costs and none of the loss of life would be borne by exporters.<sup>37</sup> The Delta itself and its people would bear by far the greatest losses. For that reason, it is hard to see any moral justification for prioritizing reliability of water exports over the safety and security of the people of the Delta.

Given likely increases in the frequency of drought and changes in the amount and timing of precipitation even in non-drought years, storage upstream of the Delta will need to be operated not just for fish but for salinity control for water quality for all users, export as well as Bay-Delta Estuary users. We can anticipate years when insufficient water is available to convey through the tunnels, and urban and agricultural ratepayers will not get what they have been promised and are paying for in terms of reliable water deliveries. A realistic appraisal of likely water conditions in the future suggests that WaterFix is

proposing to invest tens of billions of dollars to construct and operate a facility that may become a stranded asset.

### **Comments regarding transparency**

The LWVC is firmly committed to transparency in government. Indeed, our policy on water specifically requires that documents dealing with planning and management of water resources present clear, concise information, readily available to the public. Given the complexity of the RDEIR/SDEIS material and the difficulty in accessing different parts of the documents in order to analyze and synthesize, the time allotted for review is insufficient. As presented, these documents do not meet the League's criteria for transparency.

The 112-day period granted for public review of the RDEIR/SDEIS is inadequate under CEQA standards. CEQA Guidelines recommend that the "text of draft EIRs . . . for proposals of unusual scope or complexity should normally be less than 300 pages" while also recommending public review for such documents of up to 60 days. By these criteria, given the tens of thousands of pages of the RDEIR/SDEIS, the review period would be measured in years rather than in days or months.

Disks originally made available to reviewers in mid-July 2015 were in a format that did not contain hyperlinks or allow for making and saving annotations. Not all reviewers were aware that by August, documents with hyperlinks in some sections and a track changes feature were made available. Some reviewers have thus been working with documents that are not searchable easily, or at all, across sections. Even in the August version, a reviewer cannot move back and forth reliably between a hyperlinked section and the original reference to it; some hyperlinks do not work at all, and many portions of this monumental document that should be hyperlinked are not.

Tables and figures often do not accompany the text where they are described and/or mentioned. Thus, a reader must leave the referring section and access a completely different part of the RDEIR/SDEIS—in the process losing his/her reference point. There is no "search" feature of the kind common in PDFs.<sup>38</sup> The documents lack comprehensive tables and figures comparing all alternatives. Comparisons that are presented are sometimes incomplete and insufficient.<sup>39</sup>

Project proponents for the twin tunnels have deferred issues that should have been addressed before close of the public review period:<sup>40</sup>

- Deferred alternatives comparisons (inadequate analysis)<sup>41</sup>
- Deferred responses to public input regarding adequacy of alternatives<sup>42</sup>
- Deferred response to climate change<sup>43</sup>
- Deferred response to the great majority of public comments.<sup>44</sup>

Lack of transparency in this RDEIR/SDEIS is the predictable culmination of a costly multi-year process focused on justifying a project that cannot demonstrate statewide benefits commensurate with its statewide costs.

## Conclusion

The LWVC strongly protests the non-transparent, *pro forma* nature of the entire RDEIR/SDEIS process and finds that the WaterFix plan fails to meet the League's criteria for supporting new conveyance infrastructure in the Delta. WaterFix does not represent a good-faith effort by federal and state agencies representing water contractors to craft a water management strategy that fairly and realistically balances urban, agricultural, and environmental water uses north, south, east and west of the Delta.

The current statewide drought is demonstrating that water will not be available in all water years to justify construction of a costly twin tunnels facility that will contribute in all but the wettest years to degradation of water quality in the Delta, the estuary, and the San Francisco Bay, with accompanying adverse impacts on endangered species and on Delta, Bay, and upstream agricultural and urban users and economies. Conservation, recycling, watershed management, regional water supply development, and local off-stream storage projects such as groundwater storage offer much more flexible, reliable, and fiscally prudent ways to achieve water security throughout the state. Those are the strategies in which available resources should be invested.

Please contact us if you wish additional information about our comments.

Sincerely,



Helen L. Hutchison  
President

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<sup>1</sup> "Paper Water in the Trinity and Sacramento River Basins," and "Paper Water in the San Joaquin River Basin," California Water Impact Network, accessed March 14, 2014.  
<http://www.c-win.org/paper-water-trinity-and-sacramento-river-basins.html>  
<http://www.c-win.org/paper-water-san-joaquin-river-basin.html>

See also Theodore E. Grantham and Joshua H. Viers, *100 Years of California's Water Rights System: Patterns, Trends, and Uncertainty*, 19 August 2014, accessible online.

Some estimates of the degree of over-allocation are even larger than five to one. The Central Valley Project (CVP) and State Water Project (SWP) hold permits and licenses whose face value equals 53% of the total face value of the water rights within the Delta

watershed. Total face value of active water right permits and licenses within the Delta is approximately 245 million AFA. Therefore, the 53% of the rights and licenses that CVP and SWP hold would equal ~129.85 MAF (or .53 x 245). Since the mean annual unimpaired flow in the Delta watershed (flow that would be expected in the absence of storage and other human developments) between 1921 and 2003 was 29 MAF per annum (with maximum of 73 MAF per annum in 1983), full deliveries to CVP and SWP would appear to represent almost twice the largest amount of full natural (unimpaired) watershed flow in the reported period. (State Water Resources Control Board, "Water Rights within the Bay/Delta Watershed," 26 September 2008.

[http://deltavision.ca.gov/BlueRibbonTaskForce/Oct2008/Response\\_from\\_SWRCB.pdf](http://deltavision.ca.gov/BlueRibbonTaskForce/Oct2008/Response_from_SWRCB.pdf)).

The referenced document points out that "actual use must be only a small fraction of the face value of these water rights. . . ."

<sup>2</sup> Robert Kunzig, "Drying of the West," *National Geographic Magazine*, February 2008. <http://ngm.nationalgeographic.com/print/2008/02/drying-west/kunzig-text>

The author cites research on tree rings, partly funded by DWR. "The wet 20th century, the wettest of the past millennium, the century when Americans built an incredible civilization in the desert, is over."

<sup>3</sup> DWR Bulletins and Publications. "Bulletin 76, 1960, Delta Water Facilities." <http://www.water.ca.gov/waterdatalibrary/docs/historic/bulletins.cfm>

<sup>4</sup> A detailed explanation of the implications of "surplus" with respect to the Delta is covered in §§ 12200-12205 of the California Water Code.

<sup>5</sup> "From the [single] intake water would flow into an initial single-bore tunnel, which would lead to an intermediate forebay on Glannvale Tract. From the southern end of this forebay, water would pass through an outlet structure into a dual-bore tunnel where it would flow by gravity to the south Delta" (RDEIR/SDEIS 4.1.4).

<sup>6</sup> See, for example, Delta Stewardship Council, *Delta Plan*, (2013), Chapter 3, Figures 3-4a (p. 80) and 3-4b (p. 81). [http://deltacouncil.ca.gov/sites/default/files/documents/files/DeltaPlan\\_2013\\_CHAPTER\\_S\\_COMBINED.pdf](http://deltacouncil.ca.gov/sites/default/files/documents/files/DeltaPlan_2013_CHAPTER_S_COMBINED.pdf)

<sup>7</sup> See "Executive Summary," *Significant Droughts: Comparing Historical and Recent Conditions*, California Department of Water Resources, February 2015. The estimate in this letter includes the current year, 2015, in the calculation. [http://water.ca.gov/waterconditions/docs/California\\_Significant\\_Droughts\\_2015\\_small.pdf](http://water.ca.gov/waterconditions/docs/California_Significant_Droughts_2015_small.pdf)

<sup>8</sup> "DWR's fundamental purpose in proposing the proposed project is to make physical and operational improvements to the SWP/CVP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta, and

water quality within a stable regulatory framework, consistent with statutory and contractual obligations” (RDEIR/SDEIS, ES.1.2.2.1).

<sup>9</sup> This purpose statement expresses a clear intent by DWR and the Bureau of Reclamation to perpetuate historic reliance on the Delta. RDEIR/SDEIS Section 4.2.4, “Water Supply”—No Action Alternative—projects a “potential 25% increase on average in south of Delta demands under SWP M&I [municipal and industrial] contracts between existing and future levels of development due to assumed additional development and demographics.” Whatever the conveyance alternative ultimately chosen, this projected demand would appear to be the same, and the law requires that demand to be met without increased reliance on the Delta.

The case of the Santa Clara Valley Water District (SCVWD) is instructive. SCVWD contracts include 100,000 afy from the SWP, and 152,500 afy from the CVP. However, the amounts SCVWD receives can vary: SWP (11,000 afy in single dry year, to 31,830 afy multiple dry year, to 64,000 afy in a normal year); CVP (69,180 afy in single dry year, to 80,270 afy in multiple dry year, to 108,120 afy in a normal year). (See Figure 3-19, from 2011 *Countywide Water Service Review*, LAFCO of Santa Clara County, page 91, which is copied from the SCVWD Urban Water Management Plan 2010, Table 3-6.)

Clearly, from the statistics given, the SCVWD normally does not get its full contract amount of either SWP or CVP water. Given these historic lower-than-contract amounts, the consequences of RDEIR/SDEIS’ required consistency with contractual obligations (“restore . . . protect . . . consistent with . . . contractual obligations”)—which in the case of SCVWD exceed actual deliveries by a large percentage—would appear to increase the amount of water that SCVWD could expect to receive, especially problematic in multiple dry years.

<sup>10</sup> RDEIR/SDEIS 1.1.4.1

<sup>11</sup> <http://www.nrdc.org/water/ca-water-supply-solutions.asp>

<sup>12</sup> The RDEIR/SDEIS admits to “substantial uncertainty regarding the extent that operations and maintenance of Alternative 4A would result in a net increase in water residence times at various locations throughout the Delta relative to Existing Conditions” (Section 4.3.4, p. 4.3.4-67).

Salinity is measured in terms of electrical conductivity (EC), which tells how much dissolved salts the water contains. To meet water quality standards, the state and federal water projects should be operated to minimize how often EC exceeds a given value. “Substantial uncertainty” relates to the following variables: which description of standards is used (CALSIM II or D1641); where the EC measurements are taken (there are several compliance points, including Emmaton and Three Mile Slough); when the measurements are taken; which operating model is used, and what operating criteria that

model assumes; how nearly a particular model represents what actually happens in the course of real-world operations. Predictions about salinity also depend on assumptions made about the role of floodplain habitat restoration and tidal marsh habitat restoration under the BiOps. (See our discussion regarding environmental safeguards.) This is especially important given the fact that WaterFix greatly reduces exporters' commitment to habitat compared to BDCP.

<sup>13</sup> The Clean Water Act has identified the San Joaquin River as an impaired water body for chlorpyrifos, diazinon, diuron, DDT, and Group A pesticides. US EPA, 2010 California 303(d) List of Water Quality Limited Segments. Accessible online at [http://gispublic.waterboards.ca.gov/pub/303d/2010\\_USEPA\\_approv\\_303d\\_List\\_Final\\_122311wsrscs.xls](http://gispublic.waterboards.ca.gov/pub/303d/2010_USEPA_approv_303d_List_Final_122311wsrscs.xls).

Also see Category 5, 2012 California 303(d) List of Water Quality Limited Segments for multiple segments of the San Joaquin River. Accessed online 13 October 2015 at [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/2012state\\_ir\\_reports/category5\\_report.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/2012state_ir_reports/category5_report.shtml)

For drinking water standards, see *2012 Edition of the Drinking Water Standards and Health Advisories*, U.S. EPA 822-S-12-001, update April 2012. <http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf>

<sup>14</sup> In a 2012 report on Bay-Delta sustainable water management, the National Research Council said, in part:

“Irrigation drainage, contaminated by selenium from [westside] soils, is also accumulating in western San Joaquin Valley groundwaters. The problem is exacerbated by the recycling of the San Joaquin River when water is exported from the delta. While control of selenium releases has improved, how long those controls will be effective is not clear because of the selenium reservoir in groundwater.

“... Other aspects of water management also could affect selenium contamination. For example, infrastructure changes in the delta such as construction of an isolated facility could result in the export of more Sacramento River water to the south, which would allow more selenium-rich San Joaquin River water to enter the [San Francisco Bay]. The solutions to selenium contamination must be found within the Central Valley and the risks from selenium to the bay are an important consideration in any infrastructure changes that affect how San Joaquin River water gets to the bay.” National Research Council, Committee on Sustainable Water and Environmental Management in the California Bay-Delta, *Sustainable Water and Environmental Management in the California Bay-Delta*, Washington, DC: The National Academies Press, 2012, p. 94. Accessed online 13 October 2015 at <http://www.nap.edu/read/13394/chapter/5#94>

Selenium is listed as a 303(d) contaminant in at least two reaches of the San Joaquin River in the 2012 EPA Advisory referenced above.

<sup>15</sup> The RDEIR/SDEIS admits that “it is possible that increases in the frequency, magnitude, and geographic extent of *Microcystis* blooms in the Delta would occur relative to Existing Conditions” (RDEIR/SDEIS page 4.3.4-67, lines 28-29). Water temperature caused listing of three reaches of the San Joaquin River by the EPA in 2012. Op. cit. 2012 California 303(d) List.

<sup>16</sup> Id.

<sup>17</sup> <http://www.californiawaterfix.com/solution/details>, accessed 14 October 2015. The referenced site is an informational/promotional piece about California WaterFix produced by the California Resources Agency. The most straightforward information about WaterFix appears in materials like this, but it is difficult to document these assertions by referencing the RDEIR/SDEIS document itself. See our comments regarding transparency.

<sup>18</sup> According to RDEIR/SDEIS pages 5-3, lines 21-29: “California EcoRestore will be led by the Delta Conservancy as the lead state agency, and will accelerate and implement a suite of Delta restoration actions prescribed in the 2014 California Water Action Plan by 2020. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat. This habitat restoration will include creating 3,500 acres of managed wetlands; restoring 9,000 acres of tidal and sub-tidal habitat; restoring more than 17,500 acres of floodplain; and restoring more than 1,000 acres of aquatic, riparian and upland habitat projects, as well as flood management projects. EcoRestore will implement multiple fish passage improvement projects in the Yolo Bypass and other key locations, and will provide coordination with existing local Habitat Conservation Plans and Natural Community Conservation Plans.”

The RDEIR/SDEIS notes “habitat restoration is still recognized as a critical component of the State’s long-term plans for the Delta, and such endeavors will likely be implemented over time under actions separate and apart from the chosen alternative” (Section 4.1, page 4.1-2, lines 9-14.). “Likely” does not inspire confidence as to time or completeness of restoration. Rather, “alternatives’ mitigation requirements will instead occur through California EcoRestore, and these activities will be further developed and evaluated independent of the water conveyance facilities” (page 4.1-2, lines 15-17). We find here no assurance of future habitat restoration activities. Table 5.2.1-1 (Interim Habitat Measures) is similarly noncommittal: “This table includes possible restoration actions that **would** meet the requirements of habitat conservation measures or Environmental Commitments that **could** be implemented concurrently with construction of water conveyance facilities under the range of alternatives examined in the Draft EIR/EIS and this RDEIR/SDEIS” (emphasis added).

One example of the degree to which WaterFix involves a radical reduction in environmental commitment by the California Resources Agency can be found in Table 4.1-1, which compares 65,000 acres of tidal wetland restoration for BDCP Alternative 4

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to “up to 59 acres of tidal wetland” in conservation measure/environmental commitments under WaterFix preferred Alternative 4A.

<sup>19</sup> Programs associated with the 2008 and 2009 USFWS and NMFS BiOps, including Yolo Bypass improvements and 8,000 acres of tidal habitat restoration, are part of the Cumulative Impact Analyses in Section 5 of the RDEIR/SDEIS. Section 5 Table 5.2.1-1, “Restoration Projects with Potential to Contribute to Meeting Habitat Conservation Measures or Environmental Commitments,” lists both “planned” and “in progress” restoration projects. Verifying specific acreage is difficult because it is not clear whether some projects are at the “planning” or at the “in progress” stage.

<sup>20</sup> Section 4.1.4.3 states:

“. . . repackaged and limited elements of the original BDCP Conservation Measures are instead referred to as ‘Environmental Commitments’. . . . These commitments consist primarily of habitat restoration, protection, enhancement, and management activities necessary to offset—that is, mitigate for—adverse effects from construction of the proposed water conveyance facilities, along with species-specific resource restoration and protection principles to ensure that implementation of these commitments would achieve the intended mitigation impacts. . . . Additionally, pertinent elements included as Avoidance and Minimization measures and the proposed Adaptive Management and Monitoring Program would be implemented. . . . All of these components would function as de facto CEQA and NEPA mitigation measures for the construction and operations-related impacts. . . .”

<sup>21</sup> Planning for the tunnels is proceeding without transmission of a biological assessment to the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) by the Bureau of Reclamation. Endangered Species Act (ESA) Section 7 consultations have not occurred and no Biological Opinion has been prepared by the USFWS or NMFS with respect to the effects of the operation of the twin tunnels on federally listed fish species—one endangered and four threatened—or their designated critical habitats. It is not clear that WaterFix is even permissible under the ESA.

Because Reclamation has failed to prepare Biological Assessments and to initiate ESA consultation, no “reasonable and prudent alternatives” (RPAs) have been developed or suggested by the USFWS or NMFS to avoid species jeopardy or adverse modification of designated critical habitat.

For a detailed discussion of this matter, see the 9 September 2015 letter from Friends of the River et al. to federal and state agencies.  
[http://www.friendsoftheriver.org/site/DocServer/9\\_9\\_15\\_BDCP\\_final\\_ltr\\_pdf.pdf?docID=10384](http://www.friendsoftheriver.org/site/DocServer/9_9_15_BDCP_final_ltr_pdf.pdf?docID=10384)

<sup>22</sup> “The state and federal contractors would enjoy an enhanced level of water supply reliability, and would avoid prolonged water shortages that may result in the future from

increasing environmental restrictions in the Delta. The net welfare gain to the state and federal contractors as a result of implementing the BDCP is \$4.7 billion in 2012 dollars.” *Draft Bay Delta Conservation Plan Statewide Economic Impact Report*, August 2013, page ES-8

[http://baydeltaconservationplan.com/Libraries/Dynamic\\_Document\\_Library/Draft\\_BDCP\\_Statewide\\_Economic\\_Impact\\_Report\\_8-5-13.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx)

<sup>23</sup> Ibid. Table ES-1, page ES-3.

<sup>24</sup> Ibid. Section 4.3.6, p. 4.3-5.

<sup>25</sup> Dr. Jeffrey Michael, “Interpreting the Economic Impacts of Drought,” PowerPoint presentation to the State of the San Francisco Estuary Conference, Oakland, 18 September 2015. Accessed through personal communication. The presentation should be available shortly on the website of the San Francisco Estuary Partnership.

<http://www.sfestuary.org/soe/>

<sup>26</sup> Valley Economy, “Revised Delta Tunnels EIR Further Worsens the Project’s Already Lousy Economics,” 9 July 2015.

[http://valleyecon.blogspot.com/search/label/Delta\\_water\\_exports](http://valleyecon.blogspot.com/search/label/Delta_water_exports)

<sup>27</sup> “North and South Delta Exports for Alternative 4A Long-Term Average” (Figure 4.3.1-15). Calculations based on this bar graph show an increase under the most favorable (Fall X2) scenario of only 121,000 afy over existing conditions. (The LLT, or Late Long Term, for this project is 2060.)

<sup>28</sup> See Section 4.3.1-3 – 1-4, “Change in Delta Exports”:

“Delta exports would either remain similar or increase in wetter years and decrease in drier years under Alternative 4A as compared to exports under No Action Alternative depending on the capability to divert water at the north Delta intakes during winter and spring months.

“Total long-term average annual Delta exports under Alternative 4A would decrease as compared to exports under Existing Conditions reflecting changes in operations due to less negative OMR [Old/Middle River] flows, implementation of Fall X2 [salinity management] and/or spring outflow under Alternative 4A, and sea level rise and climate change.”

<sup>29</sup> [http://baydeltaconservationplan.com/Libraries/Dynamic\\_Document\\_Library/California\\_WaterFix\\_RDEIR-SDEIS\\_FAQ\\_Aug-15.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/California_WaterFix_RDEIR-SDEIS_FAQ_Aug-15.sflb.ashx)

<sup>30</sup> Changes made by WaterFix Alternative 4A to address impacts in the Delta: the reduction in power requirements by the elimination of the three pumping facilities (although two pumps have been added in a different place); a reduction in construction and associated impacts on Staten Island; a reduction in water quality impacts; and the

increased use of more state-owned property rather than private property. Under Alternative 4A earthen bays would be used instead of concrete sedimentation bays, eliminating the need for pile driving by 75 percent at each intake site, as well as reducing construction noise, truck trips, and the amount of concrete needed for construction.

<sup>31</sup> In a July 2014 letter, the Delta Counties Coalition commented as follows on the Conservation Measure for Water Facilities and Operation, CM-1 under BDCP, which is the current tunnels plan under WaterFix:

“It is both poor public policy and an unacceptable outcome for the State and federal governments to pursue a water operations project/habitat conservation plan of this scale when it will result in close to 50 significant unavoidable impacts and irreversible alteration of the physical, cultural, and socioeconomic landscape of the Delta community.”

[http://www.sacramentoriverdelta.net/wp-content/uploads/BoardLetter\\_072814.pdf](http://www.sacramentoriverdelta.net/wp-content/uploads/BoardLetter_072814.pdf)

Most of these impacts remain under WaterFix, and water contractors are now under no obligation to view facilities operation from the standpoint of a conservation measure.

For the complete list of Significant and Unavoidable Adverse Impacts, see Table 31-1 of the Bay Delta Conservation Plan Draft EIR/EIS, November 2013, pp. 31-9 to 31-13.

<sup>32</sup> The Alternative 4A discussion notes that a dry year will still see “south Delta diversions . . . provid[ing] the majority of the CVP and SWP exports” (4.1-11, lines 14-15). Also, “Alternative 4A would entail the continued use of the SWP/CVP south Delta export facilities” (4.1.2.1, lines 5- 8, page 4.1-5).

<sup>33</sup> Hypotheses will be tested using four steps (page 4.1-7, lines 3-12). The process will result in a written report that presents findings for submittal to an independent panel review process. No provision appears in this part for 1) triggers that may be used, and 2) what action may be required; nor does the “independent panel” appear to be specified.

Table 4.1-2 describes Alternative 4A water operations flow criteria (but no clear summary is given) with such uncertain qualifiers as “specific criteria for determining operations **will be developed** . . . based on real-time fish monitoring and . . . cues”; “**adjustments are expected to be made** to improve water supply and/or migratory conditions” (emphasis added). In other words, amounts are not certain and are based on criteria that are not yet available to and assessable by the public; compliance with water quality standards is not assured.

<sup>34</sup> <http://deltacouncil.ca.gov/docs/delta-isb-s-review-rdeirsdeis-bdcpcalifornia-waterfix>

<sup>35</sup> RDEIR/SDEIS, page 4.1-11.

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<sup>36</sup> Business Forecasting Center, Eberhardt School of Business, University of the Pacific et al., “Chapter 5: Flood, Earthquake and Sea-Level Rise Risk Management” in *Economic Sustainability Plan for the Sacramento-San Joaquin Delta* (Delta Protection Commission, 2012), 56.

[http://www.delta.ca.gov/res/docs/ESP/ESP\\_P2\\_FINAL.pdf](http://www.delta.ca.gov/res/docs/ESP/ESP_P2_FINAL.pdf)

Also see “Appendix E: Clarification of Some Basic Issues with Regard to Delta Levees.”

<sup>37</sup> Ibid. p. 82.

<sup>38</sup> For instance, Figures 4.4.1-1 through 4.4.1-3 are not retrievable using the “search” bar in the upper right hand of the page image on the screen (disk copy), nor could those figures be located anywhere near the referral point 4.5.1.1 of the RDEIR/SDEIS.

<sup>39</sup> For instance, a seemingly meaningless comparison analyzes Alternative 5A (one intake) and “existing conditions” regarding incremental changes in Delta outflow, but it uses a 15,000 cfs north Delta intakes capacity as a facility/operations assumption. (RDEIR/SDEIS Section 4.5.1.1, page 4.5.1-1, lines 34-36). Neither Alternative 5A nor existing conditions reportedly contain a north Delta capacity of 15,000 cfs as a facility/operations assumption, so why is that figure used?

Changes in long-term average outflow under Alternative 5A for the Early Long Term (ELT) are compared to Existing Condition (ELT) and No Action Alternative (ELT) in Tables B.1-4 and B.1-5 in Appendix B and Figures 4.4.1-1 through 4.4.1-3 in the RDEIR/SDEIS. However, changes in long-term average outflow under Alternative 5A are not compared to Alternative 4A.

<sup>40</sup> Per *Concerned Citizens of Costa Mesa*: “CEQA compels an interactive process of assessment of environmental impacts and responsive project modification which must be genuine. It must be **open to the public, premised upon a full and meaningful disclosure** of the **scope, purposes, and effect** of a **consistently described project**. . . .” We argue that the disclosure represented by the RDEIR/SDEIS is not “meaningful.” Informed public participation cannot occur when the public cannot access the pertinent information.

<sup>41</sup> “Final EIR/EIS will include summary alternative comparison tables in the Executive Summary and resource chapters that compare selected impact information across the alternatives presented in the Draft EIR/EIS and RDEIR/SDEIS” (RDEIR/SDEIS at 1.4.3, 16-18).

<sup>42</sup> “Responses to comments received on the adequacy of alternatives addressed in the Draft EIR/EIS will be provided in the Final EIR/EIS” (RDEIR/SDEIS, page 1.4.2, lines 13,14).

<sup>43</sup> “An explanation and analysis describing potential scenarios for future SWP/CVP system operations and uncertainties will be provided in the Final EIR/EIS” (RDEIR/SDEIS, 1.4.4, lines 24-26).

<sup>44</sup> “Following the close of the public review period, the lead agencies will: Consider and respond to all significant environmental issues raised in comments on the RDEIR/SDEIS (along with comments previously received on the Draft EIR/EIS)” (RDEIR/SDEIS, Section 1.6, lines 4-6).