

SOUTH DELTA WATER AGENCY

4255 PACIFIC AVENUE, SUITE 2
STOCKTON, CALIFORNIA 95207
TELEPHONE (209) 956-0150
FAX (209) 956-0154
E-MAIL Jherlaw@aol.com

Directors:

Jerry Robinson, Chairman
Robert K. Ferguson, Vice-Chairman
Natalino Bacchetti
Jack Alvarez
Mary Hildebrand

Counsel & Manager:
John Herrick

October 30, 2015

Via E-mail BDCPComments@icfi.com

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

The South Delta Water Agency submits the following comments to the RDEIR/SDEIS for the California Water Fix. SDWA is statutorily charged with the protection of the water quality and quantity in the channels of the southern Delta for the benefit of beneficial uses on the surrounding lands. The agency was also charged with seeking contracts with DWR and USBR for the protection of such water quality and quantity, but has been unable to do so. After some 20 years of negotiation, the development of a draft contract, and the implementation of the temporary tidal barrier program, the USBR abruptly left the negotiations and today claims is not authorized to negotiate or recommend any such contract. DWR similarly left the negotiations and has now taken the position that not only is it incapable of affecting water quality in the southern Delta, but that Sacramento River water does not reach the southern Delta. In the most recent attempt by SDWA to secure some sort of contract, DWR has taken the position that it does not operate the Delta by taking into consideration consumptive use in Delta channels and on Delta islands. Thus after 50 years of project adverse impacts visited upon southern Delta farmers, DWR and USBR propose implementing a re-plumbing of the Delta which will exacerbate the salinity problems in the area.

SDWA strongly recommends that the projects instead embark upon a different approach which will comply with all existing rules, regulations and statutes and store and deliver water based upon water right priorities. It is only if the projects accept the fact that there is insufficient water for most export needs will appropriate actions be agreed upon whereby the supply will be increased, rather than using the "re-cut the pie" approach we currently operate under and which has decimated the Delta estuary and especially its fisheries.

1. The RDEIR/SDEIS fails to include with a water availability analysis.

Before considering any massive project like the Water Fix, and in order to comply with the dual goals of water reliability and protection of the estuary, one must first determine how much water might be available for export and under what circumstances. The projects assume that modeling for comparative purposes includes some sort of reliable supply. The recent drought has shown this to be an incorrect approach.

Prior analyses of the water supply, done at the time of the development and authorization of the CVP indicated that over a six year drought such as in 1928-34, the Sacramento and San

Joaquin watersheds produced approximately 17.5 MAF as a yearly average. At the same time, the in-basin needs for those watersheds during that same time frame was 25.5 MAF as a yearly average; thus indicating an 8 MAF shortage in each year of the six year drought. [See Exhibit 1] In order to address this shortage, the SWP anticipated importing 5 MAF each year from north coast rivers (DWR Bulletin 76, Exhibit 2). That imported 5 MAF would partially address the in-basin shortages in those drought years, and allow for no exports at all (except for any excess flow opportunities). As year types change, the amount of exports might go from zero to potentially full contract amounts. None of this 5 MAF was ever developed, which means the projects begin each year with a 5 MAF shortage.

Not having this planned for water, the projects tried to capture as much "excess flow" as possible and the natural results were the extreme impacts on the fisheries. At every flow opportunity, the project exported as much water as possible with fishery protections pushed aside. As CCWD has previously shown, the estuary is actually less fresh now for the most part, with the projects having turned every fall into a drought year (Exhibit 3).

Before spending \$20B, \$25B, or \$40B on a facility which will allow the projects continue to export amounts similar to those which they now export, they should be required to first see how much water is actually available after full protection of fisheries. This would entail the analysis and determination of the mitigation obligations of the projects. If the projects cannot mitigate their impacts, they should not be able to export water.

Similarly, the projects have other obligations both for mitigation and under statutory mandates. The projects have severely impacted the San Joaquin River by adding hundreds of thousands of tons of salt each year, which salt enters the southern Delta and collects and concentrates. The Central Valley Regional Water Quality Control Board estimates a mean of over 900,000 tons of salt each year [Exhibit 4]. The CVP has significantly impacted River flows. The operation of Friant dam decreases the San Joaquin River flow by 347-526 TAF from April through September and 544-943 TAF for the whole year (averages of all years). [Exhibit 5 1980 Report] The operation of the CVP and SWP export pumps causes reverse flows in southern Delta channels and exacerbates and creates null zones where the imported CVP salt collects and concentrates such that water quality deteriorates to the point where standards are regularly violated. Those pumps also draw down water levels to the point where local diversions are impeded if not precluded. The projects should be obligated to mitigate these adverse impacts before constructing a new facility which will not help address these conditions, but according to the RDEIR/RDEIS make them worse.

Further, the projects are obligated under state and federal law to repulse ocean salinity to protect all Delta beneficial uses. Under the Water Code Sections 12200 et seq the projects are supposed to protect the Delta and maintain a "common pool" whereby all users have a common interest in maintaining Delta water quality. Instead, the projects propose the current twin tunnels projects whereby they will allow less fresh water to enter and flow through the Delta; a proposition which can only degrade water quality in an estuary crisis. As the Federal EPA noted in its comment letter last year, any project including operation of the two tunnels will result in a degradation of Delta water quality and corresponding violation of Clean Water Act.

Section 12202 states in pertinent part that the projects must provide "... salinity control and *an adequate water supply* for the users of water in the Sacramento-San Joaquin Delta (emphasis added). At this time the State Water Resources Control Board is still considering how to address the 2014 DWR and USBR letter complaining that in-Delta users are using water when

the projects are adding water to the system. Until the projects are forced to determine the amount of water they must provide to in-Delta uses and to protect the fisheries, there is no basis upon which to evaluate a project which assumes the projects will continue to ignore statutory obligations. Other interests will address the fishery aspects of the project. It is clear though that since the current standards and mandates do not prevent fish populations from plummeting a project that re-plumbs the Delta and fundamentally alters the operation of the Delta should not even be contemplated until the fish are protected from the adverse impacts of the projects. As the prior DEIR/DEIS and the current RDEIR/RDEIS show, moving the intakes of the projects simply transfers the projects adverse impacts to fisheries from one place to another.

In addition, other federal law mandates are being ignored. In 1992 CVPIA was enacted and signed into law. That law required the CVP (in consultation and cooperation with other federal and state agencies) to double the populations of anadromous fish. That timetable has long passed and the populations have dropped not increased. Neither CEQA or NEPA contemplate a project which ignores federal law and embarks upon actions that are known to not just fail to comply, accomplish the opposite. HR 2828, PL 108-361 enacted in 2004 mandated the USBR to reduce its use of New Melones for meeting water quality standards, seek water purchases to meet such standards, to use recirculation of export water to meet such standards, and to adopted and begin implementation of a plan *within a year* to meet all water quality obligations of the CVP. None of that has been done, except a draft study on recirculation which concluded that if meeting standards affected export supplies, it was infeasible.

In 2006, and as amended in 2010, the SWRCB adopted a Cease and Desist Order (Exhibit 6) against DWR and USBR for their failure to plan and meet the water quality standards in the southern Delta. The amended CDO in 2010, anticipating *relaxing* the standards and ordered the projects to submit a plan specifying how they would meet the standards within 180 days of the newly changed standards. The CDO also stated that if the standards were not changed by a certain date or not in the process of being implemented, that by January 1, 2013 the plan would be required any way. It is now over 1 year and 10 months since that deadline contained in a Cease and Desist Order and the projects have not submitted any such plan and have not asked for more time to submit such a plan. It appears the projects and the SWRCB have forgotten the terms of the Cease and Desist order.

The (varying) base case and no-action alternatives in the RDEIR/RDEIS perhaps tangentially allude to being in compliance with all regulations and laws, but in fact the projects are ignoring numerous laws, regulations and rules which place specific obligations on their operations; arguably which preclude exports pending compliance. None of the odd assortment of base case scenarios mention or comply with the above mandates, and thus are lacking any useful analysis. Absent specified plans to meet all of their obligations, DWR and USBR cannot adequately analyze any project.

2. The modeling of the effects of the project on southern Delta salinity are ineffective and unreliable.

Before relating specific critiques of the modeling, it must be noted that it is near impossible for even technical people to follow the conflicting and confusing modeling analyses done in the documents. The RDEIR/RDEIS make numerous attempts to explain how some project components were within the original modeling for BDCP but now removed from some of the modeling in the Water Fix documents. Some model runs are redone and some are not. Sometimes CalSimII is redone but DSM2 is not when making water quality comparisons. In the

latter example, one can only wonder where the water quality data for the preferred alternative came from when the water quality model DSM2 was not re-run. Taken as a whole, the DEIR/DEIS and RDEIR/RDEIS present an unintelligible morass of comparisons of modeling runs which have little common inputs and even intentionally examine different conditions. This not only precludes the public from reviewing and commenting on the documents, but in fact makes these documents virtually useless. These issues are covered in more detail by CCWD, the City of Antioch and others, the former being incorporated into SDWA's comments.

The RDEIR/RDEIS uses a variety of models to evaluate the alternatives, but especially CalSimII and DSM2. For DSM2, the range of calibration years do not capture the highest and lowest flow periods, and so the model is being asked to estimate flow and water quality conditions in high and low flow periods that are outside its range of calibration. The model was modified and calibrated in 2009. The lowest flow period used in the model calibration was WY 2001. The late summer flow in 2001 is 140% higher than what is typical of an extreme drought like 1977 or 2015. As we have seen in these past few drought years, DWR modeling is unreliable during these conditions.

The DSM2 model has 2 parts (actually 3, but the third does not appear to be relevant for these comments), the hydrodynamic model "HYDRO" and the water quality model "QUAL". In 2009, the Hydro model was only calibrated to WY 2001, a moderately low water year, and then validated to data collected in WY's 2001 through 2008. For this validation, the Root Mean Square Error (RSME) of the model prediction ranged from 310 cfs to 3,000 cfs at different points across the delta (DSM2 Recalibration, CH2MHill 2009). In the south Delta, the RMSE ranged between 325 cfs and 1,500 cfs, with an average error of 625 cfs. This range of error becomes extremely important not only during "normal" flow regimes, but especially during times when the net flow is very low to begin with, as was the case for the last two years.

The second component of DSM2, "QUAL", calculates the water quality components in the system. It uses the output from HYDRO for the flows within the model stream network. The QUAL model was calibrated to data collected in WY 2001 through 2008. The QUAL model was not validated after it was calibrated (DSM2 Recalibration, CH2MHill 2009). An important step in verifying that a model is accurately modeling a physical system, is the calibration-validation procedure. Without validating the model, it is possible to create a model that is only able of accurately predicting flow and water quality for the specific period of time that was used to calibrate the model. A robust model is capable of accurately modeling time periods other than its calibration period. To test the robustness of a model, the model is used to evaluate one or more time periods that were not used in the calibration process. This is the verification step. The verification step compares the measured vs predicted results for these validation periods to determine if the model error is in the same range as what was seen for the calibration period. Without a verification process, it cannot be determined if the model can accurately predict conditions for years other than the ones that it was calibrated to, even if those other years have similar flow conditions, much less for years that are outside the range of flow that was in the calibration data set. In the Delta, a huge range of conditions and variables necessitate near constant calibration in order that any model be useful.

In 2013, the model was adjusted and recalibrated again. The HYDRO calibration showed moderate improvement in the North Delta, and little to no improvement in the South Delta. No error statistics were provided on the HYDRO calibration. The error of the QUAL model to predict EC was as high as 22% in the Delta. For this error analysis, some monthly EC data points were removed from the comparison if the model could not predict them very well. The

BDCP/WaterFix Comments
October 20, 2015
Page - 5 -

author of the analysis of this calibration claimed that this made the statistical analysis “more meaningful” (DWR Memorandum, Sept 3, 2013, pg. 20). This 22% error is of a model trying to match the data that was used in it’s own calibration. The expected error for using the model in other time periods and flow regimes is unknown, but would in all likelihood be higher.

The models and their limitations are described somewhat in 8.3 of the RDEIR/RDEIS beginning on page 8-46. The calibration of DSM2 is referenced on page 8-49 of the RDEIR/RDEIS, but the document does not mention how the calibration is limited as described above. CalSimII does not itself directly use DSM2 input directly, but uses another “program” (ANN, or artificial neural network) which mimics DSM2 but which can directly give input to CalSimII. On page 8-47 the document states “The ANN may not fully capture the dynamics of the Delta under conditions other than those for which it was trained ...It is possible that the (program) will exhibit errors in flow regimes beyond those for which it was trained.”

The projects use CalSimII to both plan and operate the system and to compare different future operational scenarios such as in the RDEIR/RDEIS. Thus the model tells them when changes in operations must be made in order to meet certain permit/statutory/BO mandates, such as when water quality must be improved. However, this use of the model is limited to only certain locations in the Delta; or certain water quality standards. Hence when the RDEIR/DEIS states that the projects are or will be operating to comply with D-1641 or Biological Opinions, or other mandates, they are actually only operating to meet *some* of those requirements. This becomes extremely important for the South Delta as will be seen below.

At Page 8-50 we are told the models only predict salinity at certain locations including Banks/Jones pumping plants and the San Joaquin River at Jersey Point. The former is the only place in the south Delta, and that location is measuring cross-Delta flow, not southern Delta channels in general. On pages 8-51 and 8-51 we are informed that none of the southern Delta compliance points for water quality standards (Vernalis, Brandt Bridge, Tracy Blvd. at Old River and Old River at Middle River) are included. This means that the operations of the projects are not done to meet these standards. Although there may be reasons that the projects cannot be operate to meet certain obligations, those obligations must be met anyway.

With these sorts of errors, shortcomings and lack of calibration, it is clear that the RDEIR/DREIS do not use the “best science available.” BDCP and the Water Fix have now been evaluating the tunnels projects for many years. During that time, they were required to update and calibrate their water quality analysis in order that the effects to the project can be adequately disclosed and mitigated if necessary. Instead, the proponents rely on highly criticized modeling under the DEIR/DEIS, which includes DSM2 modeling. That modeling is not calibrated to include all year types. They then only remodel portions of the project in the RDEIR/RDEIS using the model (CalSimII) which does not even give outputs for the southern Delta. The document could have included an extensive amount of known, measured data and a description of the hydrodynamics of the area in order to evaluate the projects impacts on water quality. It did not and so is deficient under both CEQA and NEPA. The specifics of the southern Delta salt problem are set forth below.

The 1980 Report, included herewith as Exhibit 5 sets forth the overall description of how the southern Delta works. The channels of the area are below sea level (all the way to Vernalis, the beginning of the “legal” Delta. Being below sea level, they always have water in them. The San Joaquin River flows into the area from the south while the tidal action in the estuary creates flow in the opposite direction twice daily. The incoming tidal flow during an average summer

cycle is 330,000 cfs (Exhibit 7). When this tidal flow enters the southern Delta in the three main channels (Old River, Middle River and the main stem of the San Joaquin River) the flows in each of those channels is between 1,000 cfs and 2,000 cfs. The summer flows in the San Joaquin River are almost always less than 1500 cfs; this past summer it reached 129 cfs.

As the water from the San Joaquin River enters the area, there is of course consumptive use of water from the channels. Previous estimates by SDWA indicates that in the summer, the consumptive use by local farmers is 800 cfs -1400 cfs (Exhibit 8). In addition, there is a loss of water due to evaporation from the channels and a loss due to the evapotranspiration from riparian flora and the like. This means that the net use of water in the area is more than the inflow from the river. Therefore, some of the tidal water is constantly providing supply for the consumptive uses of in the area. Put another way, the net flows in the area are upstream and not downstream. It is not commonly known that the San Joaquin River does not connect with the Bay as in most months in most years no San Joaquin River water makes it to the Bay or into the ocean. This is not disputed by DWR.

This was not always the case, though low flow periods certainly occurred in the past. As referenced above, the CVP's Friant dam caused significant depletions of river flow; meaning that the CVP has caused or exacerbated the pull of Delta water into the area. Recall from above that the CVP also contributes a yearly mean of approximately 900,000 tons of salt being added to the river (as measured at Vernalis). This means we have a system that constantly delivers hundreds of thousands of tons of salt into an area that does not flush out to the Bay. The salt in fact stays in the area unless removed by some means.

Some of the salt is naturally applied to the lands in the area are part of irrigation water. Per Exhibit 9, the application of this salt to the lands actually improves the water quality at the export pumps by "holding" some of the salt in the soil. During high flows, some of that salt is flushed out of the soils and exits the area, though the specifics of this natural flushing are not well known.

Although local agricultural use consumes water but not salt, the salts are concentrated to some degree. However, since the concentrations are done as the water passes through the root zone, surface drainage in the area is not generally saltier than the water which was diverted. Local drainage systems which attempt to keep the shallow groundwater out of the root zone remove and discharge this groundwater which is generally of poor quality (high salt concentration). Thus, normal irrigation practices both help and worsen channel water quality to varying degrees.

Historically, the consumptive use of water in the southern Delta did not create salt concentrations to rise to the point where they adversely affected local agriculture because the River quality was much better (See Chapter VI of 1980 Report Exhibit 5). It was only when the CVP added hundreds of thousands of tons of salt and decreased flows that the salt build up in the area became a problem.

Added to this situation are the export pumps of the CVP and SWP. The draw of these pumps is normally many times that of local agricultural diversions. Thus even though the San Joaquin River does not reach the Bay, it does reach the export pumps. Though the export pumps are intended to take the fresher Sacramento River from the cross-Delta flow, the channels are all connected and the pumps take water from both Rivers. This means that some of the salts in the area are removed by the export pumps. It also means that as the fresher Sacramento River water

is draw into the south, it mixes with San Joaquin River water and provides dilution. Each of these provides a benefit to local agriculture by decreasing salt loads and concentrations; in effect a partial mitigation for the adverse impacts of the projects. Since the draw of the export pumps is greater than the flow in the San Joaquin River, the pumps cause reverse flows in a number of channels. This reversal of flow and the lack of a net downstream flow, causes null zones where water simply slushes back and forth. In such areas, salt concentration rise.

It was originally thought that installing and operating tidal barriers would address these problems. The barrier, allow incoming tide to enter the channels but prevent the water from flowing out on the ebb tide. This mitigates the lowered water levels caused by the export pumps when the barriers are installed and operated. The barriers to some degree do improve local flows but in fact end up trapping most all of the salt flowing in from the San Joaquin River, thus holding all that salt in the area. Some water does "leak" out over and through these temporary barriers which allows some salt to exit. DWR and SDWA have suggested and tried a few minimal actions to improve net flows in some channels to address salt concentrations, but to date have had little success. (See Exhibit 10, Excerpts from the ISDP).

The history of the salt problem in the southern Delta is well documented. Before New Melones on the Stanislaus (operated by the USBR to maintain Vernalis water quality) and before the temporary tidal barrier project was fully implemented, severe crop damage occurred in the area from the CVP introduced salt. As a result, in 1978 the SWRCB through a stakeholder process developed water quality criteria for protecting southern Delta agriculture. The Board balanced the facts and the science and determined that a 0.7 EC was needed from April through August and 1.0 EC from September through March. It was not until the 1995 Water Quality Control Plan that these criteria were adopted as standards. According to that Plan, compliance at Vernalis and Brandt Bridge should be implemented immediately with Middle River and Tracy Blvd. Bridge being implemented by December 31, 1997. The reason that Vernalis and Brandt Bridge were to be implemented immediately is that they are directly controllable by flow; that is to say increasing the flow down the San Joaquin River will necessarily improve water quality at these locations. [See page 29 of 1995 WQCP]

Instead, the SWRCB did not implement these standards until D-1641 was adopted in 2000. In that Decision, the Vernalis objectives became operative immediately, with the other three being phased in by April of 2005; twenty seven years after being developed. Since 2005, hundreds and hundreds of violations have occurred some at every compliance location. The vast majority of violations being at the Tracy Blvd. Bridge measuring point. As referenced above, the projects are under a Cease and Desist order to first "obviate" future violations and then have a plan by which compliance will be accomplished by January 1, 2013. Instead, the projects do nothing to address these obligations; producing quarterly reports under the CDO explaining why they should not obey the permits obligations requiring them to meet these standards. Included herewith is Exhibit 11 which show the number and degree of violations as well as the flows and exports occurring during the past three years. All of this data is from the DWR Delta Ops web page and can also be found on CDEC, the California Data Exchange Center.

Although the water quality (salinity) standards are measured at the four locations mentioned above, the 2006 Water Quality Control Plan clarifies that the standards apply throughout the channels (see 2006 WQCP). While a fish flow standard or discharge standard might be met at one single location, the salinity standards apply in all reaches of the channels as the local agricultural diversions occur through the system; not at one point.

In addition, an exceedance of the standard at different times will cause different results. Thus if the 1.0 EC is violated in December and only a few diversions are occurring the damage may not be great. However, when the 0.7 EC standard is violated in spring or summer when many crops are germinating or in the seedling stage, the impacts can be significant if not destructive (see Exhibit 12).

The modeling and analysis done in the RDEIR/RDEIS take none of this into account, but merely list past violations and minimize potential impacts. There is no modeling or analysis of effects on crops from violations at various times of the year. There is no modeling or analysis of how the project might affect salinity in the tens of miles of Delta channels which are not near the three interior compliance stations. There is no analysis or modeling of the magnitude of impacts/damage resulting from incremental increases of water quality violations. There is no analysis or modeling of how the project affects southern Delta water quality during the times when barriers are installed and operated or when they are not.

All of these analyses could have been done. Exhibit 13 is the prior testimony of Dr. Snaith, and economist who calculated impacts to crop production and values as salinity rises. DWR regularly does modeling of changes in southern Delta flows and quality as part of both the barrier program and as part of accomplishing transfers through the export pumps. DWR has numerous monitoring stations in the area which provide it with data showing the differences between salinity at the compliance locations and other locations in the area.

Simply put, the RDEIR/RDEIS gives short shrift to the southern Delta salinity issues. The models used are known to not be reliable during flow regimes outside of the calibration data. DSM2 was only used on Alternative 4 from the DEIR/DEIS and not for Alternative 4A, the preferred Alternative in the RDEIR/RDEIS. The documents make no attempt to discern water quality at other than four locations when it is known that water quality is worse in some areas than it is at the four locations. The document makes no effort to quantify or put current and expected future violations, rather it simply lists the record of exceedances and mentions expected increases. The document does not examine how a small number or slight increase in violations affects agriculture production. If the plants are already stressed due to the projects normal violations, to what degree do additional, even slight increases affect the plants? Because of all of this, the RDEIR/RDEIS are inadequate and do not provide any meaningful evaluation of the projects effects on the southern Delta salinity problem.

Applying common sense yields a more valid examination. The operation of the export pumps draws dilution water into the southern Delta and removes some of the CVP introduced salts. If the projects decrease the use of the export pumps in the southern Delta by operating the north Delta intakes for the tunnels, they will be providing less dilution water to the southern Delta and removing less salt. Since the area already has persistent violations of the salinity standards, the only result of operating the twin tunnels will be less dilution and more salts remaining in the area. Even if the tunnels were operated only during higher flow periods in winter and spring, the salt is still coming down the River and collecting in the area. A simple mass-balance analysis would reveal how much salt is left in the southern Delta now and how much if the tunnels are operated and when. Since the modeling is not reliable for water quality purposes and the projects are not (per CalSim II) operated to meet the southern Delta standards we have no real analysis of what the project effects are. The mass-balance would indicate how many additional tons of salt will remain in the area and when and how long. Such data would allow for a better analysis than the unreliable modeling numbers that DWR erases with its "sensitivity analyses" and other corrections. Thus we should be examining and evaluating how

an additional X amount of tons of salt remain in the area rather than looking at incremental exceedances put on a chart to minimize the project's effects.

3. Other specific comments.

The modeling appears to be focused on Alternative 4 and not all the models were run for 4A the preferred Alternative.

The chloride analysis states that the only DSM2 node close to Tom Paine Slough is the one at Tracy Blvd Bridge (page 4.3.4-14). To the contrary, Exhibit 14 shows that not only are there numerous nodes in the Slough, but there are other nodes closer than the Tracy Blvd. Bridge one. Since Tom Paine Slough experiences worse water quality than many other places, it appears the authors of the document are intentionally trying to avoid any real analysis of this area. I have personally measured EC's of 1.8 - 2.2 in Tom Paine Slough and provided both DWR and the SWRCB with those numbers.

At numerous places in the document, the authors note that San Joaquin River salinity problems will be addressed through the CVSALTS process of the State and Regional Boards. As stated in comments to the DEIR/DEIS, that process anticipates timing and dilution of salts to meet a to-be-proposed upstream (of the Delta) standard. It does not anticipate somehow decreasing the salt entering the southern Delta. By focusing on timing of releases of upstream salts, that process specifically will be worsening water quality at some other time during the year. If that approach is somehow authorized, it can only present redirected problems and not a solution to southern Delta problems. Regardless, and EIR/EIS cannot simply refer to some other uncompleted process by which it will mitigate its impacts.

The RDEIR/RDEIS at various places mentions "modeling artifacts" and "sensitivity analyses" as ways by which modeled impacts are determined to be incorrect. It is not appropriate to remove the anticipated adverse impacts from the results in order to find no adverse impacts. The document's treatment of these issues is insufficient to allow for such biased corrections.

The document anticipates significant increases in salinity at Emmaton during dry and critical years (ocean salts) and increased salinity in the southern Delta in many year types. To address this it states "these problems if real, will be addressed "via real-time operations." An EIR/EIS cannot adequately evaluate the impacts of a project if impacts are simply assumed to go away by doing something not specified in the document. The "real-time" operations might require more flow or less exports which in turn will have more effects. None of which is analyzed, much less can be relied upon to occur.

The document notes that some model limitations include assumptions that water comes from somewhere, not specified, in order to meet needs under drier conditions. Not only does this mean the models are inaccurate and unreliable, but it highlights that the projects simply do not know how to meet their obligations. On page 4.3.4-25 the document informs the public that the projects will work cooperatively with the SWRCB to deal with these instances. What this means is that the projects know they will run out of water to do what they are modeling they will do and will ask the SWRCB to relax the very standards they are modeling as commitments. [See Exhibit 15 2014 and 2105 TUCP Orders]

The documents appear to mistakenly address and explain expected water quality violations at Prisoner's Point (see page 4.3.4-25-26). The document talks about using the Head

of Old River barrier as a means of providing more flow at that location and improving water quality as needed. Although the HOR barrier does help redirect San Joaquin River flow from entering Old River, at very few times does any River water reach that location, and especially not during times when Prisoner's Point quality is bad. That location is threatened by intruding ocean salts, but San Joaquin River water is generally of worse quality than the cross Delta flow at Prisoner's Point. In addition, the HOR barrier is installed and operated under fishery agency rules and as agreed to by SDWA. By blocking Old River, it creates problems of flow and stage in southern Delta channels and thus cannot simply have adjusted operations to mitigate downstream problems. The document once again simply mentions some possible future action rather than propose a specific action and analyze the effects therefrom.

The modeling for water quality appears to be limited to LLT, the long term aspect of the project. Thus the modeling would seem to first assume adverse impacts to water quality due to climate change and sea level rise. Assuming such adverse impacts as a starting point masks the impacts of the project in the shorter term.

The document at page 4.3.4-28 assumes that lowered EC's at the export pumps will result in lowered EC in the drainage to the San Joaquin River from the CVP service area. Although such may eventually occur, there is no study provided to show the degree to which this will happen or when it may happen. The valley has accumulated over 40 million tons of CVP salt, which salt remains in the soils and much of it is slowly leaching out and making its way to the River. If in 50 years the River is somewhat better, that in no way addresses the current problem or impacts of the project. Damage to farmers in the southern Delta now is not somehow cured by better conditions in 2065.

The document opines that replacing some agriculture in the southern Delta will habitat will improve water quality in the area. This is of course untrue. Habitat uses more water than agriculture (Exhibit 16), which means salts are concentrated at a faster rate. In addition, if the habitat is not irrigated, less salt is temporarily held in the root zones and water quality at the export pumps will be worse.

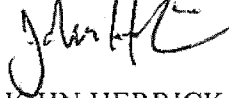
For the above reasons, the RDEIR/RDEIS are inadequate in examining the tunnels project's effects on southern Delta salinity, and thus do not constitute adequate CEQA and NEPA compliance. The SDWA hereby incorporates the comments of Central Delta Water Agency, those of the County of San Joaquin and those of CalSPA to the degree they do not conflict with anything herein.

SDWA also incorporates by reference its previous comments to the DEIR/DEIS. The Notice announcing the comment period for the RDEIR/RDEIS admonished the public to not incorporate previous comments and to comment only upon changes made from the first document. There appears to be no basis in law allowing a project proponent to limit the ability of the public to make comments on the project and its various permutations and alternatives. In

BDCP/WaterFix Comments
October 20, 2015
Page - 11 -

light of the fact that the current document contains both new evaluations and incorporates old evaluations, it is perfectly appropriate for commentators to renew their previous comments.

Very truly yours,

A handwritten signature in black ink, appearing to read "John Herrick", written in a cursive style.

JOHN HERRICK

Attachments

From: John Herrick <jherrlaw@aol.com>
Sent: Friday, October 30, 2015 5:01 PM
To: BDCPcomments
Cc: Ngmplcs@pacbell.net; barbara@restorethedelta.org; deltakeep@me.com; dean@hprlaw.net
Subject: SDWA Comments to BDCP Water Fix
Attachments: SKMBT_C35151030165200.pdf

Attached are South Delta Water Agency's comments to the BDCP. Please note that the exhibits are very high volume and are being sent separately by hightail. You will receive a link shortly and will need to download each exhibit.

Dayle Daniels, Secretary to
JOHN HERRICK, Esq.
4255 Pacific Avenue, Ste. 2
Stockton, CA 95207
(209) 956-0150 ph
(209) 956-0154 fax

CONFIDENTIALITY NOTICE: This electronic message is intended to be viewed only by the individual or entity to whom it is addressed. It may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this communication is strictly prohibited without our prior permission. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, or if you have received this communication in error, please notify us immediately by return e-mail and delete the original message and any copies of it from your computer system.



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.

1107 9th Street
Suite 300
Sacramento, CA
95814-3608
916 442.7215
888 870.8683
916 442.7362 fax

lwvc@lwvc.org
www.lwvc.org
www.smartvoter.org
www.easyvoter.org

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.

League of Women Voters of California
Comments on RDEIR/SDEIS

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.¹ 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.²

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.³ 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.⁴

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.⁵ 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.

League of Women Voters of California
Comments on RDEIR/SDEIS

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,⁶ 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.⁷ WaterFix continues the strategy of honoring contracts that over-allocate available water. The project’s purpose statement⁸ 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.⁹

By protecting and restoring contractual amounts, even though only “when hydrologic conditions result in the availability of sufficient water,”¹⁰ 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.¹¹ 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

League of Women Voters of California
Comments on RDEIR/SDEIS

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.¹²

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.¹³

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.¹⁴

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.¹⁵

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.¹⁶

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.”)

League of Women Voters of California
Comments on RDEIR/SDEIS

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,¹⁷ 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.¹⁸

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.¹⁹ 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.²⁰ 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.²¹

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.

League of Women Voters of California
Comments on RDEIR/SDEIS

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.²²

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.²³

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.²⁴ 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.²⁵

League of Women Voters of California
Comments on RDEIR/SDEIS

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.²⁶ 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.²⁷ 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. . . ."²⁸

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.²⁹ 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.³⁰ 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.³¹

Under WaterFix, the state and federal water projects would continue to rely on exports from the south Delta, especially in dry years.³² 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

League of Women Voters of California
Comments on RDEIR/SDEIS

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.³³ The Independent Science Board report has dealt particularly well with the adaptive management shortcomings of the RDEIR/SDEIS.³⁴

Flow criteria are applied seasonally (month by month) according to five water-year types.³⁵ 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”.³⁶ 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.³⁷ 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

League of Women Voters of California
Comments on RDEIR/SDEIS

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.³⁸ The documents lack comprehensive tables and figures comparing all alternatives. Comparisons that are presented are sometimes incomplete and insufficient.³⁹

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

- Deferred alternatives comparisons (inadequate analysis)⁴¹
- Deferred responses to public input regarding adequacy of alternatives⁴²
- Deferred response to climate change⁴³
- Deferred response to the great majority of public comments.⁴⁴

League of Women Voters of California
Comments on RDEIR/SDEIS

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

¹ "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

League of Women Voters of California
Comments on RDEIR/SDEIS

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).

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

² 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."

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

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

⁵ "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).

⁶ 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

⁷ 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

⁸ "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

League of Women Voters of California
Comments on RDEIR/SDEIS

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

⁹ 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.

¹⁰ RDEIR/SDEIS 1.1.4.1

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

¹² 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

League of Women Voters of California
Comments on RDEIR/SDEIS

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.

¹³ 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.

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

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>

¹⁴ 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.

League of Women Voters of California
Comments on RDEIR/SDEIS

¹⁵ 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.

¹⁶ Id.

¹⁷ <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.

¹⁸ 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

League of Women Voters of California
Comments on RDEIR/SDEIS

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

¹⁹ 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.

²⁰ 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...”

²¹ 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

²² “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

League of Women Voters of California
Comments on RDEIR/SDEIS

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

²³ Ibid. Table ES-1, page ES-3.

²⁴ Ibid. Section 4.3.6, p. 4.3-5.

²⁵ 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/>

²⁶ 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%20water%20exports)

²⁷ “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.)

²⁸ 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.”

²⁹ http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/California_WaterFix_RDEIR-SDEIS_FAQ_Aug-15.sflb.ashx

³⁰ 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

League of Women Voters of California
Comments on RDEIR/SDEIS

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.

³¹ 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

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.

³² 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).

³³ 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.

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

³⁵ RDEIR/SDEIS, page 4.1-11.

League of Women Voters of California
Comments on RDEIR/SDEIS

³⁶ 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

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

³⁷ Ibid. p. 82.

³⁸ 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.

³⁹ 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.

⁴⁰ 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.

⁴¹ “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).

⁴² “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).

League of Women Voters of California
Comments on RDEIR/SDEIS

⁴³ “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).

⁴⁴ “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).

From: Trudy Schafer <TSchafer@lwvc.org>
Sent: Friday, October 30, 2015 5:00 PM
To: BDCPcomments
Subject: Comments on WaterFix RDEIR/SDEIS from League of Women Voters of California
Attachments: WaterFix comments from LWV of CA.pdf

Hello,
Attached is a letter of comment on the California WaterFix RDEIR/SDEIS from the League of Women Voters of California.
Thank you.

Trudy Schafer, Sr. Director for Program
League of Women Voters of California
1107 Ninth Street, Suite 300, Sacramento, CA 95814
916-442-7215; 916-705-1090 (cell)
tschafer@lwvc.org

BDCPComments@icfi.com

Karen Wilson

October 29, 2015

BDCP/WaterFix Comments

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

Dear BDCP/California WaterFix staff

I received a copy at the "Open House" in Sacto on 7-28-15 of the BDCP/Calif Water Fix, Partially Recirculated DEIR/Suppl DEIS, where I took the opportunity to speak with the representative regarding fisheries issues. The answers I got were related to structures and installations "to better protect fish," with no answers to the number of increased counts. I was hoping to be able to read answers, and was disappointed to find that habitat restoration measures beyond what is considered mitigation for conveyance structures has been moved to EcoRestore.

How can these be separated, when all must be considered in Cumulative Effects Analysis?

Then, plowing thru to Section 5 on the disk, it is clear that even with mitigation, the Adverse Negative Water Quality Effects are in violation of both State and Federal Water Quality Laws. This is a reason to stop this re-evaluation of this project. Full Stop.

A cornerstone of the State Water Board and Regional Water Board's regulatory authority is the Antidegradation Policy (Resolution 68-16), which is included in the Basin Plans as an appendix. However, the Water Tunnels project Draft EIR/EIS and RDEIR/SDEIS fail to discuss or analyze constituents which will "degrade" water quality. These documents do not evaluate whether the designated beneficial use is degraded and what it means for Clean Water Act compliance.

A CWA Section 401 certification cannot be legally issued unless the project as a whole (*i.e.*, rather than the individual discharge mandating the 404 permit) meets water quality standards, which includes meeting beneficial uses designed to protect Delta species and ecosystems. The Water Tunnels project will fail across the board
There is no defensible anti-degradation analysis.

As noted above, in its August 2010 flow criteria report, the Water Board found that “[t]he best available science suggests that current flows are insufficient to protect public trust resources,” and that “[r]ecent Delta flows are insufficient to support native Delta fishes for today’s habitats.” However, flow regimes proposed by the current Water Tunnels project rely on water quality (including flow) objectives that have been failing to protect Delta ecosystem and aquatic species beneficial uses for the last 15 years or more. These include: Water Right Decision 1641 (D-1641)28; the 2006 San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan; the 2009 NMFS Biological Opinion (BiOp); and the 2008 USFWS BiOp.

Further, the Water Tunnels project notably incorporates “bypass flows” that ostensibly establish the minimum amount of water that must flow downstream of the planned north Delta intake. Rather than protecting Delta flow, the Water Tunnels project reduces average annual Sacramento River flow downstream of the North Delta intakes. Reduced flows downstream of the north Delta intakes extend all the way past Rio Vista as well. Because it fails to put needed flows back into failing waterways, the **Water Tunnels project will violate water quality standards.**

Section 101(a) of the Clean Water Act (CWA), the basis for the antidegradation policy, states that the objective of the Act is to “restore and maintain the chemical, biological and physical integrity of the nation’s waters.” Section 303(d)(4) of the CWA carries this further, referring explicitly to the need for states to satisfy the antidegradation regulations at 40 CFR § 131.12 before taking action to lower water quality. These regulations (40 CFR § 131.12(a)) describe the federal antidegradation policy and dictate that **states must adopt both a policy at least as stringent as the federal policy and implementing procedures.**

The **CWA requires the *full* protection of identified beneficial uses.** The Federal Antidegradation Policy, as required in 40 CFR 131.12 states, “The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.” The Delta is classified as a Tier II, “high quality,” waterbody by US EPA and the SWRCB. EPA Region 9’s guidance on implementing antidegradation policy states,

“All actions that could lower water quality in Tier II waters require a determination that existing uses will be fully maintained and protected.”

California’s antidegradation policy is described in the State Antidegradation Guidance, SWRCB Administrative Procedures Update 90-004, 2 July 1990 (“APU 90-004”) and USEPA Region IX, (“Region IX Guidance”), as well as Water Quality Order 86-17.

California's Antidegradation Policy (Resolution 68-16) requires that:

- Existing high quality water will be maintained until it has been demonstrated that any change will be with the maximum benefit to the people of the State.
- The change will not unreasonably affect present and anticipated beneficial uses.
- The change will not result in water quality less than prescribed in the policies.

Beneficial uses includes fisheries. The Delta is recognized as being threatened by reductions in freshwater flows through the Delta. “[H]igher water exports” are among the factors the RDEIR/SDEIS admits “have stressed the natural system and led to a decline in ecological productivity.” (RDEIR/SDEIS 1-10). Further, “There is an urgent need to improve the conditions for threatened and endangered fish species within the Delta.” (Draft EIR/EIS ES-10; RDEIR/SDEIS ES-6). The RDEIR/SDEIS admits that “the Delta is in a state of crisis” and that “Several threatened and endangered fish species . . . have recently experienced the lowest population numbers in their recorded history.” (RDEIR/SDEIS ES-1).

In chapter 4 of the RDEIR/SDEIS, the Water Tunnels “would degrade the quantity and quality of rearing habitat for steelhead relative to Existing Conditions” and “would reduce the quantity and quality of rearing habitat for larval and juvenile green sturgeon relative to Existing Conditions.” (ch. 4, 4.3.7-22; 4.3.7-296). In chapter 5, “Effects Analysis” of the BDCP Draft Plan (December 2013), “Sacramento River attraction flows for migrating adult winter-run Chinook salmon will be lower from operations of the north Delta diversions under the BDCP” and “Plan Area flows have considerable importance for downstream migrating juvenile salmonids and will be affected by the proposed north Delta diversions . . . Because of the north Delta diversions, salmonids migrating down the Sacramento River generally will experience lower migration flows compared to existing conditions . . . As with winter-run Chinook salmon, it was assumed with high certainty that Plan area flows have critical importance for migrating juvenile spring-run Chinook salmon.” (Plan, ch. 5, 5.3-29; 5, 5.4-17).

Aqua-60 in Executive Summary shows Adverse impacts after mitigation for migration conditions.

CEQA requires that unless the Water Tunnels project is dropped, a new Draft EIR/EIS sufficient to provide for meaningful public review and comment must be prepared and circulated.

ES.1.3 Areas of Known Controversy

As noted in your long list of controversial areas, these proposals have been a highly contentious issue within the electorate, courts and regulatory agencies because of the potential damage to one of the largest estuaries on the west coast of North America and the impacts to surrounding watersheds, communities and water dependent industries. Past efforts to build similar water export projects were rejected by voters, and with good reason

As currently proposed, the State of California's water tunnels project does not comply with Federal law.

Recreation

Under Recreation, there are no mitigations recommended to prevent long-term reduction of recreation opportunities and experiences as a result of constructing the proposed water conveyance facilities (REC-2 and REC-10). Although there is a typo in the footnote, only conveyance-structure mitigations are mentioned. This leaves a SU=Significant and Unavoidable negative impact to boating and fishing recreation under CEQA and A= Adverse under NEPA.

Alone, these make the whole project unacceptable.

Similar unavoidable negative impacts

Similar admissions are made, even after mitigation, in the critical areas of Spring Chinook Salmon (AQUA-60), Groundwater (GW-5&6&7)(except in the immediate area of construction), and Permanent Farmland conversions including Williamson Act Lands (ES-82 & ES-43).

Impacts to water dependent industries that count on a healthy bay and estuary have been ignored or brushed aside. Drinking and recreational contact water quality impacts, including flow related toxic harmful algae blooms will impact millions of people who depend on a healthy estuary to live, play, work, farm and fish

Have the CVP and SWP made progress in meeting required mitigation measures including the required purchase of 27,000 acres of endangered species habitat for current operations?.

Trinity River below Lewiston

I am concerned that Fig.4.3.2-9 &10 do not reflect realistic values for avg wet yrs or long-term avg years.

People need to vote

It seems essential that all people in the nation need to vote on this project, since the economic viability and natural resources have so much affect on the people of the United States of America.

In Summary

The Delta has problems that need to be addressed, and the California Water Action Plan is addressing some of them, but the CA Water Fix tunnels won't fix them. It won't produce more water, more reliable supplies, or improved conditions for the environment in the Delta.

The new EIR/EIS has not adequately addressed my above stated concerns. That is why I oppose the Delta Tunnels/California Water Fix (Alternative 4A).

There are no alternatives that reduce water exports and increase Delta flows for consideration by the public and decision-makers. Such alternatives have a far better chance of complying with the Delta Reform Act and the federal Endangered Species and Clean Water Acts.

Karen Wilson 3505 Sonoma Blvd., #320
Vallejo, CA 94590
Karenwilson19@hotmail.com

Via U.S. Mail :
The Honorable Sally Jewell
Secretary of the Interior
U.S. Department of the Interior
1849 C Street, NW
Washington, D.C. 20240
exsec@ios.doi.gov

John Laird, Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814
Kimberly.goncalves@resources.ca.gov
v

The Honorable Penny Pritzker
Secretary of Commerce
U.S. Department of Commerce
1401 Constitution Ave., NW
Washington, D.C. 20230
thesecc@doc.gov

The Honorable Gina McCarthy,
Administrator
U.S. Environmental Protection
Agency
WJC North, Room 3,000 1101A
Washington, D.C. 20460
McCarthy.Gina@epa.gov

Mark W. Cowin, Director,
California Department of Water
Resources
P.O. Box 942836, Room 1115-1
Sacramento, CA 94236-0001
Mark.cowin@water.ca.gov

David Murillo, Regional Director
U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825
dmurillo@usbr.gov

From: karen wilson <karenwilson19@hotmail.com>
Sent: Friday, October 30, 2015 4:55 PM
To: BDCPcomments
Attachments: let fix kw oct 2015.docx

From: Charles <sushibar@excite.com>
Sent: Friday, October 30, 2015 5:30 PM
To: BDCPcomments
Subject: BDCP REIR / REIS (2015) Comment --- (in re BDCP, Consider NO action alternative that includes, in any form whatsoever, the proposed "Peripheral Canal / Twin Tunnels" project! Just say no to So-Cal aquagreed!)
Attachments: BDCP_REIR-REIS_Comment_(2015).pdf
Importance: High

To read Comment, please open attached .pdf file. Thank you.

Thank you for the opportunity, here this day, to provide Comment on this matter of the Bay Delta Conservation Plan (BDCP). Looking at what was commented on five years ago, many have hoped that certain lessons have, by now, been learned. Tragically, those lessons appear NOT to have been learned. It would seem the drive to plunder Northern California of her water in manner eerily reminiscent of the plunder of Lake Owens at the hands of the Los Angeles Dept. of Water & Power (LADWP). Not only that, but it would appear that nearly all pretext of conservation has been the scaled back, by at least 70%, from the Plan. Even before the so-called "conservation measures" were scaled back, by at least 70%, it was never any kind of conservation plan (the "conservation measures" having been included for the apparent purpose of making more politically palatable the idea of wanton aquaplunder of, both surface & subsurface, sources of water, all north & upstream of the Sacramento / San Joaquin Delta, by well monied interests, both in the western San Joaquin Valley and in the L.A. Basin). Before I go on here, I must herenow pose the following question, "How is it at all true, this thing we are being attempted to be led to believe; that somehow no species listed for protection under ESA can be properly protected apart from the wanton & abject aquaplunder of all points in California north & upstream of the Delta? How is it true, this thing we are being attempted to be led to believe, this thing we are being told by at least some promoters of the BDCP?" The short answer? That idea of theirs, regardless of the source of it, is patently false! Looking at what was commented on five years ago, many have hoped that certain lessons have, by now, been learned. Tragically, those lessons appear NOT to have been learned. For the past several years, the purpose of the BDCP, the Peripheral Canal Project proposal, & the Twin Tunnels proposal, has been the naked aquaplunder of Northern California water sources by L.A. basin & by well monied western San Joaquin Valley interests.

Now, without further ado, let the discussion begin.

Let's start with the fact that conservation measures have been scaled back, by at least 70%, from the Twin Tunnels Project.

Take a look at the following excerpt from <http://www.redding.com/news/wire-news/state-cuts-habitat-restoration-for-delta-twin-tunnels-project>

California officials have dramatically scaled back the habitat restoration planned during construction of two massive tunnels under the Sacramento-San Joaquin River Delta to send water to farms and millions of people.

California Department of Fish and Wildlife Director Chuck Bonham told The Associated Press Wednesday that the project now calls for restoring 30,000 acres for wetland and wildlife habitat — down from 100,000 acres.

Bonham said the amount of land targeted for environmental improvements was revised because there was "too much complexity" in the original 50-year plan, given the need to get permits from federal wildlife agencies against a backdrop of uncertain future climate change impacts.

The original environmental improvements were projected to cost \$8 billion, and officials said the new plans to be announced Thursday will cost about \$300 million.

So, according to that excerpt, the downscaling of the conservation measures was done in order to make the project more feasible, thus revealing the REAL purpose for the BDCP --- **NAKED AQUAPLUNDER!!!!**

Here's another excerpt from <http://www.redding.com/news/wire-news/state-cuts-habitat-restoration-for-delta-twin-tunnels-project>

State officials decided to split their plans for the Delta into two parts — the construction of the tunnels and efforts to restore wildlife habitat along waterways.

"Separating them doesn't change the science," said Barbara Barrigan-Parrilla, executive director of Restore the Delta and a critic of the plan. "The tunnels are going to leave us with a permanent drought in the Delta."

The new approach doesn't come with 50-year permits, which was a goal of the previous plan because that would shield Central and Southern California water agencies from future cutbacks of Delta water for endangered species protection. Bonham said the state couldn't achieve the longer approvals and now is seeking permits of 10 years or less.

Guess which part of the Plan will, if adopted, actually be performed. The Twin Tunnels project. Why? Because the purpose of the BDCP has NEVER been about conservation! It has always been about one thing --- NAKED AQUAPLUNDER!

Here's excerpt from <http://yubanet.com/california/California-s-Twin-Tunnels-Water-Plan-Abandons-Delta-Protection-Public-Participation.php#.VjP5j7vlnN>

"The new plan is a giant step backward. If it goes through, this massive project's boosters will be able to build these tunnels without having to do anything to protect our wildlife and waters - - and will neatly sidestep input from the public," said Chelsea Tu, a staff attorney with the Center for Biological Diversity.

Here's excerpt from <http://calsport.org/news/innews/brown-fails-to-discuss-wholesale-draining-of-reservoirs-in-drought-statement/>

Bill Jennings, Executive Director of the California Sportfishing Protection Alliance, explained how the water was mismanaged.

"We entered 2013 with Shasta, Oroville and Folsom reservoirs at 115 percent, 113 percent, and 121 percent of historical average storage. In April, they were still at 101 percent, 108 percent and 96 percent of average," said Jennings.

"With no rainfall and little snowpack, the Department of Water Resources and the Bureau (of Reclamation) notified their contractors that water deliveries would be reduced. But they didn't reduce deliveries. Instead, they actually exported 835,000 acre-feet more water than they said they would be able to deliver," said Jennings.

(<http://www.sacbee.com/2014/01/26/6097073/viewpoints-better-solutions-for.html>)

Ironically, the Metropolitan Water District of Southern California will have enough water in 2014, 2015 and 2016 to supply its users while Sacramento, Folsom and other cities have been forced to cut water use by 20 percent.

"We'll have plenty of water in 2015," Jeffrey Kightlinger, Metropolitan's general manager, told the Sacramento Bee. "And even if it's still a drought, we'll still have enough water in 2016." (<http://www.sacbee.com/2014/01/12/6063205/california-drought-will-test-jerry.html#storylink=cpy>)

Now that our salmon and steelhead populations are in this crisis situation, it is crucial that Bonham and other officials meet with key leaders from the recreational and commercial fishing community, along with non-government fishery scientists and other stakeholders, to map out a drought action plan.

At least some wanton aquatheft, according to the above excerpt, is already in progress! The proposed "Peripheral Canal / Twin Tunnels" Project promises to make that situation much worse! Lake Shasta is at unacceptably low levels while Pyramid Lake in Southern California is at 98 percent of capacity and 105 percent of average; and Castaic Reservoir, 86 percent of capacity and 105 percent of average! And this to the detriment of water supplies north of the Delta, not to mention of the native fish populations as well!

Is this what we have to look forward to, under the Bay Delta Conservation Plan?

Let us repeat that! Again, from the above excerpt!:

Last summer, high water releases down the Sacramento, Feather and American rivers left Shasta, Oroville and Folsom reservoirs at dangerously low levels. Shasta is at 36 percent of capacity and 54 percent of average; Oroville, 36 percent of capacity and 54 percent of average; and Folsom, 17 percent of capacity and 34 percent of average.

Yet Pyramid Lake in Southern California is at 98 percent of capacity and 105 percent of average; and Castaic Reservoir, 86 percent of capacity and 105 percent of average.

In the following three paragraphs is a brief history of Lake Owens & of Mono Lake, using information taken from http://en.wikipedia.org/wiki/Owens_Lake and from http://en.wikipedia.org/wiki/California_Water_Wars. Similar information can be found at many other places & websites, and the following is a partial listing thereof:

<http://www.gbuapcd.org/owenslake/index.htm>, <http://www.kevinroderick.com/dust.html>,
<http://www.desertusa.com/mag98/april/owens/owenslake.html>,
http://www.pbs.org/weta/thewest/people/d_h/eaton.htm,
http://www.pbs.org/weta/thewest/people/i_r/mulholland.htm, etc.

What was it like before the L.A. Aqueduct dried up Lake Owens (a progress of 11 years from completion of the aqueduct in 1913 until 1924 when the lake had finally dried up)? It was an area supporting numerous & diverse waterfowl. According to a 1917 report by Joseph Grinnell of the Museum of Vertebrate Zoology in Berkeley, "Great numbers of birds are in sight along

the lake shore -- avocets, phalaropes, ducks. Large flocks of shorebirds in flight over the water in the distance, wheeling about show in mass, now silvery now dark, against the grey-blue of the water. There must be literally thousands of birds within sight of this one spot." The area was one that included several farms & ranches & even the occasional example of heavy industry. Before that, the Paiute (a tribe of North American Indians) inhabited the area, making use of the natural resources, including that done vis à vis their techniques of irrigation. However, by 1901 the irrigation systems then in use were reportedly so poorly designed that several areas of land in the north of Owens Valley became over-saturated to the point of nearly becoming unsuitable for many agricultural purposes. The south of Owens Valley, by contrast, was more arid & less irrigated than the north, a situation that lent itself to the kind of ranching that indeed was characteristic of south valley agriculture, then. The U.S. Bureau of Reclamation reportedly started formulating plans for an irrigation system designed for better water efficiency than the then extant systems. But then came Frederick Eaton of Los Angeles, along with William Mullholland of LADWP. Mr. Eaton lobbied then President Theodore Roosevelt urging him to stop all such plans, so that the planned diversion of Lake Owens water toward the greater L.A. area via the then yet to be constructed L.A. Aqueduct could take place. Mr. Eaton got what he wanted. And the rest, they say, was history.

But that was not enough to satisfy L.A.'s aquagreed. In 1970, LADWP completed a second aqueduct. Two years thence, they were diverting yet more surface water & were pumping groundwater at the rate of several hundred thousand acre-ft. / yr. Owens Valley springs & seeps dried up. Groundwater – dependent vegetation started dying off. And that isn't all. Not too many years after Lake Owens first dried up back in 1924, LADWP went about looking for additional water sources.

So they acquired water rights in Mono Valley. They did this during the Depression, when they knew many parties to be in dire monetary need. By 1941, the aqueduct extensions were complete. Water bodies that once fed Mono Lake were then feeding L.A.'s ever insatiable aquagreed. Mono Lake once served as an important ecosystem link, where gulls & migratory birds would nest. But the lake level began to fall beyond the extent that tufa formations were being exposed. Lake water salinity & alkalinity increased, threatening native brine shrimp. And the birds nesting on Negit & Paoha Islands came under increasing threat. For not only were alkalinity & salinity levels rising as lake levels declined, but a land bridge was beginning to form between the lake shore & Negit Island, much to the relish of local predators. 1979 saw the beginning of litigation against LADWP in re the situation at Mono Lake. And the rest, they say, is history.

In the preceding three paragraphs was presented a brief history of Lake Owens & of Mono Lake. Now, that is not the sum-total of So-Cal aquagreed, for entire volumes of work would need to be written to give a more full account.

Here is some information specific to the state of Lake Owens – the result of SoCal aquagreed.

The following are excerpts from <http://geochange.er.usgs.gov/sw/impacts/geology/owens/>:

Studies of dust storms in Owens Valley

Studies of Owens (dry) Lake and its dust storms began in the early 1980's and have been

funded by the State of California, the China Lake Naval Weapons Center, NOAA, EPA, and the USGS, among other agencies. These studies have included (1) long-term monitoring of ambient aerosols (Barone et al., 1991; Cahill et al., 1994), (2) intensive measurements of individual storms at sites around the lake bed (Reid et al., 1994; Cahill et al., 1996; Gillette et al., in press a, b), (3) hourly monitoring since 1992 of weather, sand movement, and surface conditions at the Geomet site on the south end of the lake bed, (4) satellite and airborne observations of dust storms (St. Amand et al., 1986), (5) detailed sampling and analysis of lake-bed crusts and subsurface deposits (WESTEC, 1984; St. Amand et al., 1986; Cahill et al., 1996), and (6) measurement of dust composition and deposition rates on and downwind of the lake bed since 1991 (Reheis, in press). In addition, the Great Basin Unified Air Pollution Control District has conducted extensive studies related to stabilizing the lake bed.

Why does Owens (dry) Lake produce so much dust compared to other playas in southern California and Nevada (typically 10-100 times more; Reheis, in press)? The dry lake bed is often wet during the cool months and is underlain by a large brine pool that saturates the sediments at shallow depths; as a result, the surface is commonly crusted, especially during the late winter and early spring, with salt (chiefly sodium sulfates and sodium carbonates; St. Amand et al., 1986) that is extremely vulnerable to erosion by saltating particles during the frequent high winds in the Owens Valley (Cahill et al., 1996).

Salt-rich dust derived from Owens (dry) Lake travels both north and south on turbulent winds that are funneled through Owens Valley by the adjacent Sierra Nevada on the west and the White-Inyo Range and Coso Range on the east. This dust can be transported long distances because it is unusually fine-grained compared to dust from other natural sources (Cahill et al., 1994, p. 6-7); dust plumes from the playa have been tracked by satellite to distances of 250 km to the south into the area of Los Angeles (Saint Amand et al., 1986). A recent report on patterns of dust transport to the Grand Canyon (Vasconcelos et al., 1996) notes that high dust concentrations are most common in air masses arriving from the southwest, i.e. from southern California. Though the authors suggest this dust is generated from agriculture and suburban development, it is possible that fine-grained dust from Owens (dry) Lake may contribute significantly to the dust load in regions to the east.

Dust deposition rates and potential effects on soils

The infiltration of salt-rich dust from Owens (dry) Lake into soils around the playa likely has affected vegetation and soils, which are mostly not adapted to saline conditions because the lake held water continuously for at least the past 800,000 years and probably throughout much of the Quaternary (Smith et al., 1997). The USGS has maintained seven dust traps within Owens Valley, sampled twice a year since November 1991, to provide data on the amount and composition of dust that is likely to be incorporated into the soils. "Winter" samples accumulate from October through April, a period that typically includes the largest and most frequent dust storms of the spring and fall (Cahill et al., 1996). "Summer" samples accumulate from May through September; the playa crust tends to be more stable during this period than in the winter, although large dust storms may still occur. Annual dust-deposition rates ("dust flux") measured in Owens Valley can be compared to a data base of modern dust flux and composition measured since 1984 at many sites in southern Nevada and California (Reheis and Kihl, 1995); these sites are in relatively undisturbed areas compared to the area around Owens Lake playa.

The content of fine particles and salt in Owens Valley dust samples is very high, especially near the lake bed. The <10 micron content is commonly 60-90 % in samples from site T-62

on the south side of the lake bed and ranges from 25 to 70 % at the other sites. Clay content (<2 micron) of samples from site T-62 ranges from about 20 to 50 %, and contents of samples from the other sites range from about 10 to 30 %. The fine particle size of the dust-trap samples is similar to measurements of samples from within dust plumes (Gearhart et al., 1995; Cahill et al., 1994), and this size distribution permits long transport distances of the dust (Tsoar and Pye, 1987). The soluble salt content of dust deposited around Owens (dry) Lake ranges from about 15 to 35 % (Reheis, in press). The salt content of most of the samples near and south of the playa is higher than that of the regional dust (Reheis and Kihl, 1995).

[...]

The artificial desiccation of Owens Lake has created the single largest source of PM-10 dust in the United States. Dust storms from the dry lake bed are a significant health hazard to residents of Owens Valley and nearby areas, and impact air quality in a large region around the lake bed. Salt-rich dust derived from the Owens Lake playa is deposited in significant quantities, much larger than those elsewhere in southern Nevada and California, to distances of at least 40 km north and south of the playa. The dust-flux measurements indicate that significant quantities of salt-rich dust are probably being added to the soils in the region around Owens Lake playa, which may affect soil pH and vegetation.

And the following are excerpts from <http://www.npr.org/2013/03/11/173463688/owens-valley-salty-as-los-angeles-water-battle-flows-into-court>..

A Dried-Up Lake Turned Salt Flat

At the end of a bumpy road skirting the barren edge of the dry Owens Lake bed, highway signs become teachers about this harsh environment: that way to Furnace Creek, straight ahead to Stove Pipe Road, then Death Valley beyond. The wind has left small sand dunes on the road. Even in winter, the high desert sun is punishing, but you can see for miles.

And it's not hard to spot the white speck of Marty Adams' helicopter coming into view on the southern horizon. Owens Lake is four hours away from L.A., unless you have a chopper — then the journey takes about an hour and a half. Friendly, polished Adams is given an aerial tour of Owens Lake, near the Sierra Nevada Mountains, hundreds of times.

As director of water operations for the Los Angeles Department of Water and Power, Adams oversees the complex system that collects snowmelt off the Sierra Nevada and carries it to water taps in the country's second largest city. But he's also in charge of dealing with the environmental consequences, and they're huge.

"People hear a 'dry lake,' and you might think it's a mountain lake, it's surrounded by trees," Adams says.

Instead, it's a salt flat the size of San Francisco, and when the wind blows, it can churn up huge dust storms with high levels of particulates that are dangerous to breathe. That earned Owens Lake the dubious mark of being the largest single source of dust pollution in the nation. And California law leaves no ambiguity for who the responsible polluter is.

[...]

"The reason the city is not deploying the additional controls that are required to meet the standard is simply about money," [Great Basin Unified Air Pollution Control District's Air Pollution Control Officer, Ted Schade] says.

When Schade took the job in 1990, the levels of particulate coming off Owens Lake were 100 times the standard the federal government says is safe to breathe. These tiny particulates are especially harmful because they're hard to detect, and can build up in the lungs over time and cause respiratory problems.

[...]

An Environmental Justice Issue?

On a dirt road tucked off Highway 395, Mel Joseph climbs a ladder to the top of an air quality control monitor that he operates for the Lone Pine Paiute-Shoshone tribal community. These days, Joseph says, there are a lot fewer stage-one air alerts, but they still happen.

"It's an environmental justice issue as well for us, as to why our reservation is located 5 miles from the nation's largest source of particulate pollution," Joseph says.

He says the city of L.A. is still to blame for that pollution. Up and down the rural valley, there has been no love lost for the city's DWP since it began diverting water here 100 years ago.

This brings the discussion to the definition applied to the term "water supply reliability". Now, the water supply situation, South of the Delta, would be in much better state, were it not for the fact that water supplies sourced South of the Delta are dedicated to the L.A. Basin & to the Pacific Ocean. But there seems to be, on the part of the parties responsible, so much a desire to plunder Northern California water supplies down to levels not even sufficient to satisfy minimum Health & Safety standards that alternatives to that do not typically get the consideration they deserve, if they get any consideration at all! There is an enormous body of water that is exactly due west of California. With proper desalination, that body of water can serve as almost inexhaustable resource for Southern California. But that seems not to be in any conformity with the will certain of those who are yet still intent on aquaplunder. Remember what happened to Lake Owens at the hands of LADWP!

The definition applied to the term "water supply reliability" by BDCP promoters --- one that has as essential element, the ability of end-users south of the Delta to rely on water supplies north of the Delta, & that with no thought whatsoever for any end-users north of the Delta.

End-users South of the Delta are not currently allowed to use their own "area-of-origin" water supplies, & that so that: a) the L.A. Basin can be amply supplied; and b) the whole thing can serve as a pretext for the aquaplunder of all of Northern California! It begs the question of "Mistake or malice". Does it not? And what will end-users North of the Delta be allowed to use? Nothing? Again, there seems to be, on the part of the parties responsible, so much a desire to plunder Northern California water supplies down to levels not even sufficient to satisfy minimum Health & Safety standards that alternatives to that do not typically get the consideration they deserve, if they get any consideration at all!

The assumption, by promoters of BDCP, appears to be that somehow all water north & upstream of the Delta to belong to parties south of the Delta, regardless of any to whom it really belongs. Under that assumption, those to whom water really belongs are regarded, for all practical purposes, as having stolen it from those deemed to own it. While that may sound a bit harsh to say, how else is it to be explained, the carefully crafted definition applied to the term "water supply reliability".

Of course, it is well enough known that the "Peripheral Canal / Twin Tunnels Project" is designed to divert substantial numbers of cfs away from the Sacramento River, at points north of the Delta, to benefit end users south of the Delta. San Joaquin River levels, south of the Delta, are expected to rise, benefiting urban end users south of the Delta, thus providing benefit to all So-Cal end users, including those in the L.A. Basin. According to the available official literature, the benefit accrues to So-Cal at the expense of Nor-Cal.

Because end-users South of the Delta are effectively prohibited from the use of water originating South of the Delta, pressure is thus created for the aquaplunder of all of Northern California! What will end-users North of the Delta be allowed to use? Again, there seems to be, on the part of the parties responsible, so much a desire to plunder Northern California water supplies down to levels not even sufficient to satisfy minimum Health & Safety standards that alternatives to that do not typically get the consideration they deserve, if they get any consideration at all!

River levels north of the Delta will inevitably decline, owing to the "Peripheral Canal / Twin Tunnels" project, thus increasing demands on upstream reservoirs & aquifers. The "Peripheral Canal / Twin Tunnels" project, under any circumstances, is harmful to the North State, but during a drought such as we currently suffer it is categorically insane. All THIS falling under the rubric of so-called "water supply reliability". Now, under the normal & ordinary definition, people & communities can rely upon the water to which they have right, & that without fear of aquatheft. Incidentally, there is an enormous body of water that is exactly due west of California. With proper desalination, that body of water can serve as almost inexhaustable resource for Southern California. But that seems not to be in any conformity with the will certain of those who are yet still intent on aquaplunder. Remember what happened to Lake Owens at the hands of L.A.D.W.P.

Remember what happened to Lake Owens at the hands of LADWP!

If "water supply reliability", under the normal & ordinary definition, were actually a concern of the promoters of the "Peripheral Canal / Twin Tunnels" project, that project would have NEVER been contemplated, would never have been designed, would never have been proffered, would never have even been conceived at all. Instead, there would already be several desalination facilities on line, supplying all of So-Cal & all of Westlands with abundant water from the Eastern Pacific. The rest of the San Joaquin Valley end-users would, under that scenario, be able to properly use water supplies sourced SOUTH & upstream of the Delta; supplies to be supplemented, if/when necessary, by water desalinated. But to do that would be to defeat the very purpose for which the "Peripheral Canal / Twin Tunnels" project was conceived in the first place.

The promoters of BDCP Lake Owens speak of Lake Owens as ready source of water for L.A.

Basin. They are oft loathe to speak of any impacts of L.A. Aqueduct, to Lake Owens itself (LADWP, by the operation of the L.A. Aqueduct, has turned Lake Owens into a dried up alkali salt flat), and this, apparently, is by design.

What was it like before the L.A. Aqueduct dried up Lake Owens (a progress of 11 years from completion of the aqueduct in 1913 until 1924 when the lake had finally dried up)? According to a 1917 report by Joseph Grinnell of the Museum of Vertebrate Zoology in Berkeley, "Great numbers of birds are in sight along the lake shore -- avocets, phalaropes, ducks. Large flocks of shorebirds in flight over the water in the distance, wheeling about show in mass, now silvery now dark, against the grey-blue of the water. There must be literally thousands of birds within sight of this one spot." The area was one that included several farms & ranches & even the occasional example of heavy industry. Before that, the Paiute (a tribe of North American Indians) inhabited the area, making use of the natural resources, including that done vis à vis their techniques of irrigation. However, by 1901 the irrigation systems then in use were reportedly so poorly designed that several areas of land in the north of Owens Valley became over-saturated to the point of nearly becoming unsuitable for many agricultural purposes. The south of Owens Valley, by contrast, was more arid & less irrigated than the north, a situation that lent itself to the kind of ranching that indeed was characteristic of south valley agriculture, then. The U.S. Bureau of Reclamation reportedly started formulating plans for an irrigation system designed for better water efficiency than the then extant systems. But then came Frederick Eaton of Los Angeles, along with William Mullholland of LADWP. Mr. Eaton lobbied then President Theodore Roosevelt urging him to stop all such plans, so that the planned diversion of Lake Owens water toward the greater L.A. area via the then yet to be constructed L.A. Aqueduct could take place. Mr. Eaton got what he wanted. And the rest, they say, was history.

From pg. 3-10 of BDCP Draft Scoping Plan (Comment Deadline for which was May 14 2009), "The operation of new facilities may require modifications of the operations of upstream reservoirs. This would require modification of the various agreements & licenses governing the operation of these reservoirs. This may require changes in minimum instream flow requirements, minimum drawdown levels, flood control operations, temperature standards, & riparian & geomorphic flow requirements. Such modifications may require modification of Clean Water Act § 404 permits for these projects, as well. Additionally, hydroelectric facilities may need modification to their FERC licenses." Translation, greater demands will inevitably be imposed on upstream water supplies north of the Delta, thus jeopardising end users north of the Delta as well as hydroelectric generation capacities severely, not to mention jeopardizing upstream ecosystems, all in the event of the construction & operation of the "Peripheral Canal / Twin Tunnels". Thus the purpose & intent of the "Peripheral Canal / Twin Tunnels" project is further revealed.

In response to concerns raised about reservoir drawdown, announcement was made, July 25 2012, several of the intermediate pumps originally in the design for the proposed project were removed therefrom, thus reducing the conveyance capacity of the proposed project. But what has been removed can be reincorporated. And given the intent underlying the Peripheral Canal proposal that was in circulation back in 2009, it entirely conceivable that the intermediate pumps will be put back in the project design. Consider that several of the Action Alternatives in the current EIR/EIS yet contain proposal for the 15,000 cfs conveyance facilities. Consider, also, that outside the scope of the Proposed Project, different parties South of Delta have been attempting to procure groundwater transfer agreements under

which groundwater is pumped to replace water that is sent down to the Delta (as opposed to being used by the party/parties from whom the water transfer has been sought). This increases aquifer drawdown rates. Yet the EIR/EIS, where it refers to groundwater drawdown, only discusses groundwater in the Delta region & groundwater South of the Delta region. But it does NOT discuss at all groundwater depletion possibilities NORTH of the Delta. What reason would there be for such an omission? Would it have anything to do with the intent behind the Peripheral Canal?

Of course, when the promoters of BDCP & of the "Peripheral Canal / Twin Tunnels" project talk of "water supply", it is always with the idea of NorCal end-users being forcibly deprived of water for purposes of those outside of the area from whence the water came. Note that earlier in this Comment there is explanation of what the BDCP EIR/EIS author(s) mean by the term "water supply reliability", the definition promoters of BDCP have applied to the term "water supply reliability" — one that has as essential element, the ability of end-users south of the Delta to rely on water supplies north of the Delta, & that with no thought whatsoever for any end-users north of the Delta. Everything is bent to this purpose.

And given the Minimum Delta Outflow Requirements, requirements which exist, in part, to ensure against excessive salinity & to protect covered species, the only way to ensure that both the new diversion facilities & the estuary are adequately supplied with inflows of water would be to increase drawdown rates of upstream reservoirs --- a task made all the easier (in the case of Lake Shasta) by the presence, at the base, of an automated temperature control device (a device that can automatically increased drawdown rates, based on certain temperature presets, etc.). A "Peripheral Canal / Twin Tunnels" project, such as is & has been proposed, would most certainly increase reservoir drawdown rates. Has this fact somehow escaped the minds of those who yet push for the "Peripheral Canal / Twin Tunnels" project? If has escaped their minds, it would be an example of gross negligence --- the failure to adequately consider the impacts of the proposed project on upstream reservoirs. If it has not escaped their minds, it would be an example of grave malice against the people who live north & upstream of the Delta.

Such a statement, as in the above excerpt, defies all reason. Here's how. If water temperature is purely a function of air temperature, with neither water volume nor flow rate being factors at all, then what would be the point of installing any kind of automated temperature control device at the base of Shasta Dam? Why would water temperature be a factor at all in the determination of requirements for minimum river depths if water temperature be not at all influenced either by volume or by flow rate?

Now, the "Peripheral Canal / Twin Tunnels" project is incontrovertibly going to increase demands on upstream water supplies, lowering river levels as they do. With the operation of the automated temperature control device (TCD) at the base of Shasta Dam, every time river levels decrease, the device opens more outlets (until, when necessary, they are all open) thus increasing drawdown rates. This is yet another way that the "Peripheral Canal / Twin Tunnels" project is manifestly intended to increase drawdown rates of upstream reservoirs. And to claim that the proposed project would have no impact whatsoever on reservoir levels is to expect of the reader(s) of said claim the height of credulity --- indeed, an insult to the intelligence of all.

Of course the claim that water temperature is purely a function of air temperature is not the

only claim that defies all common sense. There are claims, concerning some of the Action Alternatives, that reservoir levels @ Lake Shasta would actually increase as compared with the No Action Alternative.

It is a matter of common knowledge that more water is traded & re-traded than exists in reality. And it is also a matter of common knowledge that a supply of paper water is too often, by the relevant administrating agencies, deemed to satisfy the Subdivision Map Act's requirements for water supply availability.

An excerpt from <http://www.northcoastjournal.com/humboldt/waters-for-fighting/Content?oid=2360940>

Today, powerful water brokers have made contracts that promise far more water than nature can deliver — particularly in the face of growing populations and climate change.

And here's excerpt from <http://calsport.org/news/innews/brown-fails-to-discuss-wholesale-draining-of-reservoirs-in-drought-statement/>

“Governor Brown has called on all Californians to voluntarily reduce their water usage by 20 percent and the Save Our Water campaign has announced four new public service announcements that encourage residents to conserve. Last December, the Governor formed a Drought Task Force to review expected water allocations and California's preparedness for water scarcity. In May 2013, Governor Brown issued an Executive Order to direct state water officials to expedite the review and processing of voluntary transfers of water,” the statement concluded.

I'm glad that CAL-FIRE has hired 125 additional firefighters to help address the increased fire threat due to drought conditions, the California Department of Public Health has identified and offered assistance to communities at risk of severe drinking water shortages, the California Department of Fish and Wildlife has restricted fishing on some waterways due to low water flows worsened by the drought and the Governor is calling for increased water conservation.

However, the big question is: where were Jerry Brown, Natural Resources Secretary John Laird, Department of Water Resources Director Mark Cowin and other officials when the state and federal water agencies drained Shasta, Oroville, Folsom and other reservoirs last summer in order to ship water to the Kern Water Bank, the Westlands Water District, and Southern California water agencies?

The Bureau of Reclamation and Department of Water Resources systematically drained northern California reservoirs, resulting in low flows and endangering salmon and steelhead in the Sacramento, Feather and American rivers, while filling water banks and Southern California reservoirs. This is “Chinatown” all over again. I will repeat again what I wrote in the Sacramento Bee last week.

“Last summer, high water releases down the Sacramento, Feather and American rivers left Shasta, Oroville and Folsom reservoirs at dangerously low levels. Shasta is at 36 percent of capacity and 54 percent of average; Oroville, 36 percent of capacity and 54 percent of average; and Folsom, 17 percent of capacity and 34 percent of average.

Yet Pyramid Lake in Southern California is at 98 percent of capacity and 105 percent of average; and Castaic Reservoir, 86 percent of capacity and 105 percent of average.

The state and federal water agencies exported massive quantities of water to agribusiness interests and Southern California water agencies, endangering local water supplies and fish populations as the ecosystem continues to collapse."
(<http://www.sacbee.com/2014/01/22/6090426/northern-california-reservoirs.html>)

Bill Jennings, Executive Director of the California Sportfishing Protection Alliance, explained how the water was mismanaged.

"We entered 2013 with Shasta, Oroville and Folsom reservoirs at 115 percent, 113 percent, and 121 percent of historical average storage. In April, they were still at 101 percent, 108 percent and 96 percent of average," said Jennings.

"With no rainfall and little snowpack, the Department of Water Resources and the Bureau (of Reclamation) notified their contractors that water deliveries would be reduced. But they didn't reduce deliveries. Instead, they actually exported 835,000 acre-feet more water than they said they would be able to deliver," said Jennings.
(<http://www.sacbee.com/2014/01/26/6097073/viewpoints-better-solutions-for.html>)

Ironically, the Metropolitan Water District of Southern California will have enough water in 2014, 2015 and 2016 to supply its users while Sacramento, Folsom and other cities have been forced to cut water use by 20 percent.

"We'll have plenty of water in 2015," Jeffrey Kightlinger, Metropolitan's general manager, told the Sacramento Bee. "And even if it's still a drought, we'll still have enough water in 2016."
(<http://www.sacbee.com/2014/01/12/6063205/california-drought-will-test-jerry.html#storylink=cpy>)

Now that our salmon and steelhead populations are in this crisis situation, it is crucial that Bonham and other officials meet with key leaders from the recreational and commercial fishing community, along with non-government fishery scientists and other stakeholders, to map out a drought action plan.

At least some wanton aquatheft, according to the above excerpt, is already in progress! Lake Shasta is at unacceptably low levels while Pyramid Lake in Southern California is at 98 percent of capacity and 105 percent of average; and Castaic Reservoir, 86 percent of capacity and 105 percent of average! And this to the detriment of water supplies north of the Delta, not to mention of the native fish populations as well!

And this is what we have to look forward to under the Bay Delta Conservation Plan!

Let us repeat that! Again, from the above excerpt!:

Last summer, high water releases down the Sacramento, Feather and American rivers left Shasta, Oroville and Folsom reservoirs at dangerously low levels. Shasta is at 36 percent of

capacity and 54 percent of average; Oroville, 36 percent of capacity and 54 percent of average; and Folsom, 17 percent of capacity and 34 percent of average.

Yet Pyramid Lake in Southern California is at 98 percent of capacity and 105 percent of average; and Castaic Reservoir, 86 percent of capacity and 105 percent of average.

The BDCP exposes numerous covered species to different contaminants. Where this is mentioned in the Plan Document, the impact is rationalised by claiming that either the passage of time, reduced agricultural production, etc. These rationalisations appear numerous times in Chapter 5 of the Plan Document. And these are not unexpected, given that the impacts to NorCal water supplies, are repeatedly minimised & otherwise denied, all over the BDCP EIS/EIR.

Nevertheless, here is a partial list of adverse effects of BDCP that the author(s) of the Plan Document actually admit to (in the Plan Document, itself):

It can give one cause to wonder just what is the fundamental purpose of the BDCP.

Here is excerpt from a Comment submitted, Nov. 23 2009, concerning National Marine Fisheries Service's (NMFS') "Draft Central Valley Salmon and Steelhead Recovery Plan":

Now, of the several things that can be listed as threats to the welfare of California salmonoid populations, [& those of other listed fish species,] is that posed by predation of salmonoids[, & of other listed fish species,] by marine mammals. It is certainly no great secret that seals & sea lions have virtually taken over an entire pier in San Francisco Bay. Sightings of individuals have been reported as far away thence as the Delta region[, itself]. Given that, it comes as no great shock that there is significant predation of salmonoids[, & of other listed fish species,] by marine mammals. It would therefore stand to reason that the proper, sufficient, well-regulated, closely supervised reduction & thinning of marine mammal populations would directly benefit salmonoid[, & other listed fish species',] populations, insofar as it would tend toward the increase of them.

Now, nobody, here, is thus advocating any kind of pre-1893 style wanton wholesale slaughter of marine mammals! However, [for agencies of competent jurisdiction] to refuse to take any action whatsoever against the regional overpopulation of certain marine mammal groups, where not only are members thereof predatory against (in this case) listed [fish] species, but said predation is widely said to be a material factor in any such [...] decline, is at the very least a reckless form of denial in the face of a very clear threat to listed [fish] populations. Predatory marine mammal populations simply must be reduced & thinned, under a regimen of very well regulation & even closer supervision. Otherwise, the probability of [certain] recovery actions implemented being eventually of little or none effect has the potential of all too quickly becoming a mathematical certainty. Worse than that could easily eventually materialise in such event.

[...]

Regional overpopulation of fish-predatory marine mammals is a certain fact. And to maintain this regional overpopulation is to positively harm listed fish species, period.

Excerpt from <http://www.3news.co.nz/Weather-overpopulation-starving-California-Sea-Lions/tabid/417/articleID/115755/Default.aspx>

"A significant portion of our animals are so debilitated when they join us that we're just not able to rescue them or save them," explains Jeff Boehm of the Marine Mammal Centre.

Why is this happening? Part of the problem could be overpopulation --- a record 59,000 of the animals were born along the coast last year.

Excerpts from <http://www.publicaffairs.noaa.gov/releases99/feb99/noaa99r107.html>

**NOAA 99-R107
FOR IMMEDIATE RELEASE**

[...]
2/11/1999

FEDERAL RESOURCE AGENCY SAYS GROWING WEST COAST SEAL, SEA LION POPULATIONS INCREASINGLY IN CONFLICT WITH HUMANS, SALMON

NOAA Fisheries Responds to Congressional Request for Report

Rapidly growing populations of California sea lions and Pacific harbor seals on the West Coast can harm salmon stocks and other fish that are at low levels, including those listed or proposed to be listed under the federal Endangered Species Act, NOAA's National Marine Fisheries Service said in a report sent to Congress [Feb. 11 1999]. The report, also citing increasing incidents of sea lions that cannot be deterred from docks and marinas, said sea lions and harbor seals may be a threat to public safety at such locations.

[...]

The fisheries service report, compiled with the assistance and concurrence of the Pacific States Marine Fisheries Commission and the fish and wildlife agencies of California, Washington and Oregon, was requested by Congress in 1994 to address the effects of rising West Coast pinniped populations on declining salmon stocks and interactions with humans. Congress would have to change the Marine Mammal Protection Act to put the report's recommendations into effect.

The 18-page report to Congress is based on a larger scientific report, also produced by the fisheries service, that describes robust and increasing seal and sealion populations on the West Coast. According to the latest figures available, the scientific report estimates that by the mid-1990s there were 188,000 California sea lions and 76,000 harbor seals off California, Oregon and Washington. These populations have grown at an annual rate of about 5 to 7 percent, tripling their numbers since the 1970s.

Rapidly growing populations of California sea lions and Pacific harbor seals on the West Coast can harm salmon stocks and other fish that are at low levels, including those listed or

proposed to be listed under the federal Endangered Species Act, NOAA's National Marine Fisheries Service said in a report sent to Congress today. The report, also citing increasing incidents of sea lions that cannot be deterred from docks and marinas, said sea lions and harbor seals may be a threat to public safety at such locations.

Harbor seals, California sea lions and other marine mammals, such as whales and porpoises, have been protected by the federal Marine Mammal Protection Act since 1972. The results, according to the report, have been mixed. Some animals, like North Atlantic right whales, Steller sea lions and Hawaiian monk seals, remain critically endangered. Others, like California sea lions and Pacific harbor seals, have increased so rapidly that there are now frequent and serious conflicts between them and humans coast wide.

The fisheries service report, compiled with the assistance and concurrence of the Pacific States Marine Fisheries Commission and the fish and wildlife agencies of California, Washington and Oregon, was requested by Congress in 1994 to address the effects of rising West Coast pinniped populations on declining salmon stocks and interactions with humans. Congress would have to change the Marine Mammal Protection Act to put the report's recommendations into effect.

The 18-page report to Congress is based on a larger scientific report, also produced by the fisheries service, that describes robust and increasing seal and sea lion populations on the West Coast. According to the latest figures available, the scientific report estimates that by the mid-1990s there were 188,000 California sea lions and 76,000 harbor seals off California, Oregon and Washington. These populations have grown at an annual rate of about 5 to 7 percent, tripling their numbers since the 1970s.

Although not [believed by the Report's author(s) to be] the primary cause for the salmon's decline, both seals and sea lions are known to eat fish from depressed stocks of salmon and steelhead, especially at areas of restricted passage like river mouths and dams, and this can prevent or delay recovery of declining fish populations. Fisheries service biologists note that there is a wide variety of other factors, including habitat degradation, dams, fishing and competition from hatchery salmon, responsible for these population declines.

[...]

The report says in certain situations where seals or sea lions are preying on salmonids listed or about to be listed under the Endangered Species Act, state and federal wildlife managers, under strict federal guidelines and as a last resort, should be permitted to lethally remove these marine mammals.

[...]

The report recommends that, in cases where seals or sea lions are causing repeated, serious conflict with human activity at locations such as fishing grounds or marinas, state or federal managers should be authorised to lethally remove identified problem marine mammals, if individual animals fail to respond to repeated attempts to deter them.

Other recommendations include developing safe and effective deterrents, so that lethal removal of problem animals is a seldom-used option. There is a "pressing need," according

to the report, for research on the development of effective devices and methods that would drive away seals and sea lions from problem areas without harming them.

The report also recommends Congress consider reinstating the authority, removed from the federal marine mammal protection law in 1994, that allows a fisher to lethally remove a seal or sea lion to protect his catch or gear if the animal cannot be otherwise deterred. Such authority, the report says, would be only for certain fishers at specific sites and seasons, and only until effective non-lethal means to deter seals and sea lions can be developed.

[...]

Excerpts from <http://www.flyfisherman.com/2011/04/20/seals-and-sea-lions-eating-salmon/>

Seals And Sea Lions Eating Salmon

by Jim Yuskavitch ||| April 20 2011

It's not a rare scenario for salmon or steelhead anglers fishing in the bays and tidewater river reaches along the Pacific Northwest. Fish on, then a sudden hard tug on the line and their catch is gone—into the jaws of a marauding harbor seal or California sea lion. Commercial fisherman have their complaints as well, accusing these ubiquitous and resourceful marine mammals of taking large numbers of salmon and steelhead—that would otherwise be caught for human benefit—from their nets or the open ocean.

[...]

With more than a half-million fish-eating pinnipeds prowling the coastline, bays, and river mouths, you have to wonder if predation is having a serious impact on West Coast anadromous fish numbers throughout their range.

[...]

“They eat every kind of fish imaginable or whatever is in season or locally abundant,” says [Robin Brown, Marine Mammal Research Project Leader with the Oregon Department of Fish and Wildlife]. “They don’t just target steelhead and salmon.” For example, in the mid-1980s, Brown and colleagues examined the stomach contents of 100 seals that had drowned in commercial fishermen’s nets. “Ninety seven percent of what we found in the stomachs were smelt, because they were so abundant,” he says.

[...]

One of the most well-known examples of this was in the mid-1980s to early 1990s when a small group of California sea lions congregated by a fish ladder at Ballard Locks in Washington State, happily feasting on half of a run of wild steelhead. Some 50 sea lions make an annual spring pilgrimage 146 miles up the Columbia River to the base of Bonneville Dam to feed on the salmon that gang up at the fish ladders. Another 10 or so sea lions pull the same trick on spring Chinook salmon at Willamette Falls on Oregon’s Willamette River. A group of pinnipeds has learned to scoop chum salmon off their spawning beds on a tributary

of Washington State's Hood Canal.

Now, in the conclusory portion of the (above) excerpted report, the author of it makes a radical departure from the body of his writing so as not to contradict what appears to be a deeply held ideological belief.

Even with the evidence of overpopulation of fish-predatory marine mammals, there are some, such as the author of the above report, who are unwilling to bring themselves to even consider the idea of reducing populations of fish-predatory marine mammals. Be it raw emotion, ideology, something else, or all the above, common sense seems to have fallen victim to deeply held ideological tenets to the contrary.

Excerpts from http://www.noaanews.noaa.gov/stories2011/20110512_sealion.html

Wash. and Ore. authorised to remove salmon-eating Calif. sea lions

NOAA's Fisheries Service says authorisation comports with court's concerns
May 13 2011

NOAA's Fisheries Service said today it was authorising the states of Washington and Oregon to lethally remove specific California sea lions that congregate 140 miles from the Pacific Ocean just below the Columbia River's Bonneville Dam to eat thousands of adult salmon and steelhead swimming upriver to spawn. Some of the salmon and steelhead are listed as threatened or endangered.

[...]

NOAA initially gave the states authorization in 2008 to "permanently remove" problem California sea lions, including relocating them to zoos or trapping and euthanising them. A lawsuit that year resulted in a 2009 federal district court ruling supporting NOAA's lethal removal authorisation, but a finding by an appeals court in late 2010 overturning the authorisation, sent the decision back to NOAA to better explain its rationale for protecting salmon by removing offending California sea lions.

Today's decision by NOAA responds to the court's concerns and gives the states permission under the Marine Mammal Protection Act to remove, lethally if necessary, individually identifiable California sea lions that have been observed eating salmon or steelhead in the area immediately below Bonneville Dam. The authorisation covers removal of up to 85 California sea lions annually, although the agency said it was unlikely that large a number would be taken each year, based on the three years the program has been in effect.

[...]

Excerpt from <http://www.orma.com/news/crafty-sea-lions/>

Crafty Sea Lions Gobbling Up Endangered Salmon

by Robert Cheney on May 21 2012

Salmon have been declared endangered due to declining runs. As a result, government has imposed a variety of "solutions". Agricultural irrigation from the Columbia has been reduced, water permits for household or farm use have been all but stopped, and public utilities are being required to dump water over spillways to keep flow levels higher rather than build reservoirs for summer power generation. Meanwhile the federal government have required hundreds of millions in Bonneville Dam upgrades in the hopes of assisting salmon migration. The Columbia River runs right in front of people's home with 200,000 cubic feet per second and they wouldn't be able get a permit to draw water for their house plants even if they wanted to.

The crafty sea lions have figured out that when the salmon return to spawn they are slotted into a narrow concrete chute to traverse the Bonneville Dam fish ladder. For the sea lions and salmon it's an unnatural barrier with little protection. But for the sea lions, it's a moving buffet line. In fact, it's so attractive that the sea lions have migrated over a hundred miles up the Columbia River to get to the feast.

So after millions in public investment, people aren't too excited about building a salmon recovery system just to fatten sea lions. Sea lions are very smart. Once a few are shot, they will figure it out in a hurry and stay away from the salmon buffet at the dams.

So, in response to this threat to the endangered salmon, a program under the Marine Mammal Protection Act was created that allows the fish and wildlife departments in Idaho, Oregon and Washington to kill sea lions that eat endangered salmon. Nine sea lions have died by lethal injection this spring, and almost 50 have been killed or relocated since the program started in 2008. The program was on hiatus in 2011 due to a Circuit Court ruling against the killings.

On March 15 2012, the NOAA's Fisheries Service extended the program until 2016 allowing the killing of up to 92 sea lions (since reduced by a judge to 30 per year).

[...]

The BDCP makes no mention of addressing the threat posed to fish populations by over-abundance of those marine mammals that feed specifically on listed fish species, doing so at & near the mouths of rivers, harbors, & other similar geographic features.

It can give one cause to wonder just what is the fundamental purpose of the BDCP.

Under BDCP, river levels north of the Delta will inevitably decline, owing to the "Peripheral Canal / Twin Tunnels" Project, thus increasing demands on upstream reservoirs & aquifers. The "Peripheral Canal / Twin Tunnels" Project, under any circumstances, is harmful to the North State, but during a drought such as we currently suffer is categorically insane.

A number of fields have already gone fallow. Shall we make the problem worse via the "Twin

Tunnels / Peripheral Canal" Project? Industries of all types will be further curtailed beyond that which otherwise would be the case. And what of hydro-power?

Electricity from hydro-generators depends on turbine speed. RPMs, there, result from hydraulic force brought to bear on turbine blades. Force is the product of pressure multiplied by area. And pressure, here, is a function of depth. So when depth at the dam is reduced, hydroelectric capacity is thus reduced, thereby increasing grid-dependence on the very non-renewable fuels the Air Resources Board is currently disincentivising for such use.

We would do well to remember the history of Lake Owens. Fredrick Eaton & William Mullholland cooked up quite a scheme to benefit the L.A. Basin at the expense of Owens Valley. Shall history repeat itself?

There seems to be an elaborate plan intended, ultimately, to plunder Northern California of her water to such an extent as has not been seen since the plunder of Lake Owens at the hands of the Los Angeles Dept. of Water & Power (LADWP), under the leadership of William Mullholland, working hand in hand with Frederick Eaton, a plan cleverly cloaked in the language of conservation.

Indeed there is a plan intended, ultimately, to plunder Northern California of her water to indeed quite an alarming extent, as I will show in the remainder of this Comment. But before I go on here, I must herenow pose the following question, "How is it at all true, this thing we are being attempted to be led to believe; that somehow no species listed for protection under ESA can be properly protected apart from the wanton & abject aquaplunder of all points in California north & upstream of the Delta? How is it true, this thing we are being attempted to be led to believe, this thing we are being told by at least some promoters of the BDCP?" The short answer? That idea of theirs, regardless of the source of it, is patently false! Another question, "Does proper protection of Delta & estuary ecosystems really necessitate the abject aquaplunder of all points north & upstream of the Delta? Is this thing at all true, what at least some promoters of BDCP are attempting to lead us to believe?" Of course not! But that is manifestly not the purpose of the BDCP, as this Comment clearly shows.

Now, when looking at the Delta Vision website, et al, back in 2009, 'twas found the phrase "Peripheral Canal" to have mysteriously disappeared somehow from any official discussion, at the time. Instead, what was found there then was a cavalcade of glowing rhetoric extolling the alleged virtues of the so-called Delta Vision, rhetoric that was almost quasi-messianic in tone. Much effort at review of the documents collected was required before the first mention of any kind of "peripheral canal" was found, at all. The exact phrase "Peripheral Canal" was, of course, found nowhere in the discussion appearing at the Delta Vision website, back then. Instead, terms such as "conveyance," "dual conveyance," & "Delta Fix" were used. Only such descriptions as be light on detail were there to be found anywhere inside the avalanche of propaganda favorable to the promoters of the idea of a Peripheral Canal, there at the Delta Vision website. And that was not the only such propaganda-laden webpage.

From pg. 3-10 of BDCP Draft Scoping Plan (Comment Deadline for which was May 14 2009), "The operation of new facilities may require modifications of the operations of upstream reservoirs. This would require modification of the various agreements & licenses governing the operation of these reservoirs. This may require changes in minimum instream flow requirements, minimum drawdown levels, flood control operations, temperature standards, &

riparian & geomorphic flow requirements. Such modifications may require modification of Clean Water Act § 404 permits for these projects, as well. Additionally, hydroelectric facilities may need modification to their FERC licenses." Translation, greater demands will inevitably be imposed on upstream water supplies north of the Delta, thus jeopardising end users north of the Delta as well as hydroelectric generation capacities severely, not to mention jeopardizing upstream ecosystems, all in the event of the construction & operation of the "Peripheral Canal / Twin Tunnels". Thus the purpose & intent of the "Peripheral Canal / Twin Tunnels" project is further revealed.

And it's now being done in the name of protecting those species listed as endangered & / or threatened under both the Federal ESA & the California ESA. But is there substance to all the messianic promises being made in this attempt to set parts of Northern California well on their way to each potentially becoming another Lake Owens, for all practical intents & purposes? Well, there are certainly a great deal of promises, but that alone can't prove much. The stated purpose of the "Twin Tunnels / Peripheral Canal" Project may never be thereby fulfilled. Let's list a few factors: food limitation, invasive species, discharges of contaminants, temperature trends, etc. Again from pg. 3-8 of BDCP Draft Scoping Plan, "Even if construction & operation of North Delta facilities completely eliminates negative effects to covered species [...], other stressors may ultimately result in failure of these species to recover." Even if? What's this "even if" business? Is it not an admission, at least of sorts, that the "Twin Tunnels / Peripheral Canal" Project likely cannot deliver on its promises?

In 1982, an initiative was put on the ballot, which initiative provided for the construction & operation of the Peripheral Canal. Fortunately, it was rejected by the voters.

And today, we have before us yet another Peripheral Canal proposal --- The "Twin Tunnels / Peripheral Canal" Project.

Not one drop of benefit accrues to the North. Because major flows & flow rates are diverted away from the Delta thus, increased demands are imposed on upstream reservoirs to increase discharge rates, lest river levels be suffered to wane. Some upstream reservoirs were recently fitted with river temperature control devices designed to automatically increase discharge rates whenever river water temperatures start to exceed a preset number of degrees Centigrade. This was done to promote salmon spawning. But because of the mandated use of these devices, whenever major flows are diverted away from the Delta (thus reducing river levels by the rate of diversion, less any increase in upstream reservoir discharge rates), reservoir levels drop even faster than would otherwise be the case. Thus less water is available for end-users upstream of the diversion points. Drought or not, the "Twin Tunnels / Peripheral Canal" project is an abominably bad idea. But in the midst of such a drought as we now suffer, the Peripheral Canal is not only an abominably bad idea, it is also categorically insane! And as water is diverted upstream of the North Delta, Delta salinity naturally increases, thus placing Delta & Estuary ecosystems at increased risk. To counter this, bypass flows must needs be suffered to increase. And indeed the BDCP calls for exactly that. However, bypass flow rates cannot, ultimately, be made to increase, except that upstream reservoir discharge rates likewise be made to increase. And this is because even if diversion rates are ever commensurately reduced, under no diversion plan now being contemplated will rates ever be brought down to zero.

After all, who builds a canal who does not also intend for it to be used at all?

On the heels of that comes reduced hydroelectric generation capacity. It's only natural for that to be. For the rotational speed of hydroelectric turbines is entirely dependent on the force exerted on each turbine blade by the water. Force, incidentally, is the product of pressure multiplied by volume, and pressure is a function of depth. Where depth is reduced, pressure is reduced. Where pressure is reduced, force (relative to volume) is reduced. Where force is reduced, the rotational speed of each hydroelectric turbine is reduced, and where that is reduced, the electrical output of a given hydroelectric generator is thus reduced. Lo, another facet of the manifest purpose of The "Twin Tunnels / Peripheral Canal" Project!

And of all the several means by which electricity is generated for a given population of rate payers, which means are contemplated to be suffered to proliferate, solar, water, and wind result in lower levels of emissions of so-called greenhouse gases (GHGs) than any other such means by which such electricity is to be generated. And of these, water is in the greatest jeopardy, thanks, at least in part, to the "Twin Tunnels / Peripheral Canal" Project, & that by design. Where hydroelectric generation capacity is reduced, an electricity deficit is thus created. That deficit must be made up somehow, or else the risk of area – wide utility service failure, of one form or another, escalates considerably. Additional sources of electricity are time consuming to bring on-line, needless to say. It is so for additional sources of low carbon electricity sources as it is for additional higher carbon electricity sources. When hydroelectrical capacity is reduced, the only two ways to make up the resulting deficit, at least in the shorter term anyhow, are to: (a) allow reservoirs levels to sufficiently increase (a thing that will likely never be allowed to happen, in the event of the construction & subsequent operation of the "Twin Tunnels / Peripheral Canal" Project); (b) generate more electricity from higher carbon sources; and / or (c) institute rolling blackouts. And given the policy goals of the California Global Warming Solutions Act of 2006 (commonly identified as AB32), the Western Climate Initiative (WCI), etc., the idea of the "Twin Tunnels / Peripheral Canal" Project is especially repugnant. The "Twin Tunnels / Peripheral Canal" Project is manifestly designed to increase statewide GHG emission rates, and may therefore (at least in theory, anyway) be classifiable as an indirect gross polluter. To paraphrase a popularly known anti-drug slogan "Just say no to the "Twin Tunnels / Peripheral Canal" Project!"

While promoters of the BDCP may take issue with the characterisation of BDCP as a plan intended, ultimately, to plunder Northern California of her water to such an extent as has not been seen since the plunder of Lake Owens at the hands of the Los Angeles Dept. of Water & Power (LADWP), a plan all the while cleverly cloaked in the language of conservation; while promoters of the BDCP may take issue with such a characterisation of BDCP as that, as this Comment has shown, said characterisation is most certainly warranted.

Now, if "water supply reliability", under the normal & ordinary definition, were actually a matter of concern to promoters of the "Peripheral Canal / Twin Tunnels" project, that project would have NEVER been contemplated, would never have been designed, would never have been proffered, would never have even been conceived at all. Instead, among the things to be done in the alternative (to said project), things being done by government(s) to make the problem worse would be made to immediately cease & desist. One such thing, "geoengineering."

For an introduction to what "geoengineering" is, & the damage it does, here's an excerpt from <http://www.geoengineeringwatch.org/wp-content/uploads/2014/03/Flaming-Arrow-Package.txt>

Geoengineering / Solar Radiation Management / Drought

What if there were a monumental environmental threat that you didn't even know was happening? What if you found out it is affecting your health and that of people you know and love? What if you knew it was such an enormous problem that it has the potential to destroy our crops and trees, the soil they are grown in, our entire water supply, and whole ecosystems - and that if you didn't act, we could never turn back?

We are not talking about fracking, nuclear energy, or the oil industry. We're not even talking about climate change.

What if it came into use in an insidious way, just as GMO foods have come into our food supply without our knowledge? What if it appeared to be harmless, but it wasn't? And what if it were so cleverly woven into our culture that we didn't even see it anymore? What if it were so masterfully stigmatized and wrapped in controversy that if you thought it strange or concerning, you'd be scorned or ignored?

It sounds like science fiction, but it's not. It's happening right above, and it's called "geoengineering".

You can find articles and debates in which scientists are proposing to "dim" the sun to slow down climate change, using a technique called "Solar Radiation Management" (SRM). Their concept is to mimic the dimming and cooling effects of a volcanic eruption and existing particulate pollution made by human activity. However, it has been out of the proposal stage for quite some time, and even though officials will not admit it, SRM is already in full-scale operation.

SRM sounds like a viable solution to slowing climate change, and scientists have repeated how "cheap" it is over and over again. But it comes with a price. In fact, it comes with many.

Global climate engineering/geoengineering programs are radically disrupting weather patterns, disrupting the hydrological cycle (causing drought in some areas, flooding others), destroying the ozone layer, and contaminating the entire planet with the toxic fallout from these atmospheric spraying operations.

Climate engineering programs have been fully deployed for many years. There is a mountain of hard science data and film footage to back up this statement of fact.

[...]

We have included articles and information that will shine more light on this extremely important issue, one that is radically affecting our planet's life support systems, and every one of us. Our only goal is that you will review what we have included, and we hope it will motivate your continued investigation of the completely illegal, unregulated, and incredibly devastating climate modification programs that are being conducted on a global scale.

You can learn more at:
<http://www.geoengineeringwatch.org/>

[...]

A slide show of what is happening to our world:
<http://worldviewclimateengineering.weebly.com/>

Aren't they just contrails? No.
<http://www.youtube.com/watch?v=WgL6b7VTxT4#t=1342>

You can find more documents and many pictures on these links:

[...]

Global Research article: <http://tinyurl.com/bxy5yqy>

[...]

But is it really sulphurs they're talking about using? What about aluminum?
http://www.youtube.com/watch?v=nmGRy_cCiZw&feature=youtu.be

Why would aluminum be a problem? <http://www.lenntech.com/periodic/elements/al.htm> (and it can never be removed from our soil.)

What about DROUGHT? Could geoengineering be affecting the hydrological cycle?

Yes: <http://www.edf.org/blog/2013/12/11/geoengineering-cure-worse-disease> and
<http://www.independent.co.uk/news/science/plan-to-avert-global-warming-by-cooling-planet-artificially-could-cause-climate-chaos-9043962.html>

Still not convinced weather modification is taking place or has been used in the past? Click on the link below.
<http://www.globalsecurity.org/military/ops/popeye.htm>

Digressing to the matter of the BDCP, Under BDCP, river levels north of the Delta will inevitably decline, owing to the "Peripheral Canal / Twin Tunnels" Project, thus increasing demands on upstream reservoirs & aquifers. The "Peripheral Canal / Twin Tunnels" Project, under any circumstances, is harmful to the North State, but during a drought such as we currently suffer is categorically insane.

A number of fields have already gone fallow. Shall we make the problem worse via the "Twin Tunnels / Peripheral Canal" Project? Industries of all types will be further curtailed beyond that which otherwise would be the case. And what of hydro-power?

Electricity from hydro-generators depends on turbine speed. RPMs, there, result from hydraulic force brought to bear on turbine blades. Force is the product of pressure multiplied by area. And pressure, here, is a function of depth. So when depth at the dam is reduced, hydroelectric capacity is thus reduced, thereby increasing grid-dependence on the very non-renewable fuels the Air Resources Board is currently disincentivising for such use.

We would do well to remember the history of Lake Owens. Fredrick Eaton & William Mullholland cooked up quite a scheme to benefit the L.A. Basin at the expense of Owens Valley. Shall history repeat itself?

There seems to be an elaborate plan intended, ultimately, to plunder Northern California of her water to such an extent as has not been seen since the plunder of Lake Owens at the hands of the Los Angeles Dept. of Water & Power (LADWP), under the leadership of William Mullholland, working hand in hand with Frederick Eaton, a plan cleverly cloaked in the language of conservation.

Indeed there is a plan intended, ultimately, to plunder Northern California of her water to indeed quite an alarming extent, as has been shown in this Comment. Here's a question. "How is it at all true, this thing we are being attempted to be led to believe; that somehow no species listed for protection under ESA can be properly protected apart from the wanton & abject aquaplunder of all points in California north & upstream of the Delta? How is it true, this thing we are being attempted to be led to believe, this thing we are being told by at least some promoters of the BDCP?" The short answer? That idea of theirs, regardless of the source of it, is patently false! Another question, "Does proper protection of Delta & estuary ecosystems really necessitate the abject aquaplunder of all points north & upstream of the Delta? Is this thing at all true, what at least some promoters of BDCP are attempting to lead us to believe?" Of course not!

In conclusion, it would seem the drive to plunder Northern California of her water in manner eerily reminiscent of the plunder of Lake Owens at the hands of the Los Angeles Dept. of Water & Power (LADWP). Not only that, but it would appear that nearly all pretext of conservation has been the scaled back, by at least 70%, from the Plan. Even before the so-called "conservation measures" were scaled back, by at least 70%, it was never any kind of conservation plan (the "conservation measures" having been included for the apparent purpose of making more politically palatable the idea of wanton aquaplunder of, both surface & subsurface, sources of water, all north & upstream of the Sacramento / San Joaquin Delta, by well monied interests, both in the western San Joaquin Valley and in the L.A. Basin). Before I go on here, I must herenow pose the following question, "How is it at all true, this thing we are being attempted to be led to believe; that somehow no species listed for protection under ESA can be properly protected apart from the wanton & abject aquaplunder of all points in California north & upstream of the Delta? How is it true, this thing we are being attempted to be led to believe, this thing we are being told by at least some promoters of the BDCP?" The short answer? That idea of theirs, regardless of the source of it, is patently false! Looking at what was commented on five years ago, many have hoped that certain lessons have, by now, been learned. Tragically, those lessons appear NOT to have been learned. For the past several years, the purpose of the BDCP, the Peripheral Canal Project proposal, & the Twin Tunnels proposal, has been the naked aquaplunder of Northern California water sources by L.A. basin & by well monied western San Joaquin Valley interests.

Note the following significant & unavoidable impact of the Twin Tunnels project --- significant and unavoidable impacts related to hydrology and water quality include violation of water quality standards and impacts on groundwater, including depletion of groundwater resources.

Let us never forget the REAL purpose of the Twin Tunnels project, & of the BDCP --- **NAKED**

AQUAPLUNDER!!!!

To paraphrase a popularly known anti-drug slogan "Just say no to the "Twin Tunnels / Peripheral Canal" Project!" And any so-called "conservation plan" that would include it as an essential element must be forthwith rejected! Just say "NO" to the BDCP! Now & forever!