Comments on the Water Quality Section of BDCP/California WaterFix RDEIR/SDEIS

G. Fred Lee, PhD, BCEES, F.ASCE Anne Jones-Lee, PhD
G. Fred Lee & Associates
El Macero, California
530 753-9630
www.gfredlee.com

October 28, 2015

The *"Public Review Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) - 508 Compliant"* is available for public review at:
http://baydeltaconservationplan.com/2015PublicReview/PublicReviewRDEIRSDEIS/PublicReviewRDEIRSDEIS_508.aspx

In response to the request for comments on the Water Quality Section of BDCP/California WaterFix RDEIR/RDEIS (*Appendix A – Revisions to the Draft EIR/EIS - Chapter 8 – Water Quality – 508*) [http://baydeltaconservationplan.com/RDEIRS508/Ap_A_Rev_DEIR-S/08_WQ-508.pdf] we wish to submit the following comments.

Summary of Findings
Overall, we find that the Department of Water Resources (DWR) and the Federal Bureau of Reclamation (USBR) RDEIR/SDEIS falls far-short of adequately discussing the potential impacts of the proposed "Tunnel Project" for diverting the Sacramento River around the Delta on water quality-related beneficial uses of the Delta.

This assessment is based on more than 40 years of investigation of Delta water quality issues, summarized below and in,

Lee, G. F., and Jones-Lee, A., "Experience in Reviewing Delta Water Quality Issues," G. Fred Lee & Associates, El Macero, CA, April 3 (2011).
http://www.gfredlee.com/SJR-Delta/GFLAJL-Delta-EXP-REV.pdf

Our comments on the BDCP draft EIR/EIS cited below also outline our qualifications to assess the quality of the DWR/USBR RDEIR/SEIS. Those comments discuss the unreliability of the approach used in developing the BDCP draft EIR/EIS concerning water quality impacts. Since the evaluation of the so-called "WaterFix" described as Alternative 4A in the RDEIR/SEIS followed the same approach, it, too, inadequately evaluated potential, and readily anticipated water quality impacts of the proposed diversion of Sacramento River; it is grossly deficient for meeting a certifiable, creditable environment assessment of the impacts of the "WaterFix" tunnel diversion.

Lee, G. F., and Jones-Lee, A., "Comments on Bay Delta Conservation Plan (BDCP) Draft EIR/EIS Chapter 8 – Water Quality, Chapter 25 – Public Health, July 25, 2014," Comments submitted as part of comments provided by California Sportfishing Protection Alliance, Stockton, CA to Ryan Wulff, NOAA National Marine Fisheries Service, Sacramento, CA,

July 28 (2014). http://www.gfredlee.com/SJR-Delta/Comments_BDCP_draft EIR_EIS_July2014.pdf

We are incorporating many of our comments on deficiencies in the draft BDCP EIR/EIS by reference in these comments on the draft REIR/SEIS "WaterFix" report.

We have reviewed the Environmental Water Caucus Comments on Recirculated Draft EIR/Supplemental Draft EIS for Bay Delta Conservation Plan and Tunnels Project section devoted to "Clean Water Act Violations" beginning on page 46 and support the statements made in the EWC comments. Our comments on the significant deficiencies in the DWR/USBR WaterFix RDEIR/SEIS focus on issues not covered in the EWC water quality comments with particular reference to the impact of the diversion of Sacramento River water on Central Delta nutrient/phosphorus water quality.

Experience in EIS EIR Reviews. A significant part of our professional activity is devoted to review of environmental impact statements. We are typically asked to evaluate the adequacy of a draft EIR/EIS for reliably discussing the impacts of a proposed project on water quality of potentially affected areas, both in breadth and technical foundation. It is critical that full and technically reliable assessments are made in an EIR/EIS to enable it to withstand the scrutiny of court proceedings to which it may be subject.

We also have been involved in the development of certified EIRs and are therefore familiar with the development of a credible certifiable EIR/EIS. For example we were involved in assessing water quality impacts of making significant alterations to Cache Creek in the Central Valley that is polluted by mercury. Our report on this issue is,

Lee, G. F., "Water Quality," Chapter 4.6 of Yolo County's Supplemental Environmental Impact Report for the Cache Creek Resources Management Plan and Cache Creek Improvement Program, County of Yolo Planning and Public Works Department, Woodland, CA (2002).

Deficiencies in "WaterFix" draft REIR/SEIS

One of the most significant deficiencies in the BDCP EIR/EIS and the WaterFix tunnel diversion project is that it does not properly review the published studies on flow patterns in the Central Delta channels as they are impacted by the amount of Sacramento River that is drawn through the Delta channels by the DWR/USBR export Banks and Jones pumps in the southern Delta. As discussed in our reports on our website (www.gfredlee.com in the Joaquin River Delta section) the withdrawal of South Delta water by the DWR and USBR south Delta pumps greatly influences the flow path of the San Joaquin River and the Sacramento River through the Delta. It is our understanding that implementation of WaterFix is projected to result in the withdrawal of up to 45% of the water from the Delta via those South Delta diversion projects. As discussed in our project reports, at this time all the San Joaquin River and a substantial amount of Sacramento River are drawn into the Central Delta through Turner Cut and Columbia Cut; significant alteration of these sources not only impacts the Central Delta water quality but also adversely impacts the ability of salmon to find their homestream water for spawning upstream of the Delta. These issues are reviewed in,

Lee, G. F., and Jones-Lee, A, "Review of Impacts of Delta Water Quality and Delta Water

Exports on the Decline of Chinook Salmon in the SJR Watershed," Comments submitted to NMFS Southwest Fisheries Science Center, NOAA, Santa Cruz, CA, by G. Fred Lee & Associates, El Macero, CA, August (2008).
http://www.gfredlee.com/SJR-Delta/Salmon-NOAAcom.pdf

Lee, G. F., and Jones-Lee, A., "Need for SJR Watershed Water to Reach San Francisco Bay," Comments submitted to Delta Stewardship Council, Sacramento, CA by G. Fred Lee & Associates, El Macero, CA, May 22 (2011).
http://www.gfredlee.com/SJR-Delta/NeedSJRtoSFBay.pdf

The failure of the DWR/USBR draft EIR/EISs to discuss the fact that tunnel diversion will deprive the Central Delta of several thousand cfs of Sacramento River water that currently dilutes the SJR flow entering the Central Delta at Turner and Columbia Cuts is a significant deficiency; the Central Delta is a key part of the Delta ecosystem for fish and other aquatic life. As we found in DeltaKeeper-supported cruises, the current flow pattern is such that the South Delta export pumps pull Sacramento River water into the Central Delta via those "Cuts" and thereby dilutes pollutants in the SJR. Our reports on these issues are on our website (in the SJR-Delta section at http://www.gfredlee.com/psjriv2.html). Since pollutants in the SJR and Sacramento River have a substantial impact on Central Delta water quality, the Draft EIR/EISs are fundamentally flawed in their review of the impact of the WaterFix tunnel project on Delta water quality. A summary of our writings on the impact of altering Delta flows are presented in,

Lee, G. F., and Jones-Lee, A., "Discussion of Water Quality Issues That Should Be Considered in Evaluating the Potential Impact of Delta Water Diversions/Manipulations on Chemical Pollutants on Aquatic Life Resources of the Delta," Report of G. Fred Lee & Associates, El Macero, CA, February 11 (2010).
http://www.gfredlee.com/SJR-Delta/Impact_Diversions.pdf

Lee, G. F., and Jones-Lee, A., "Review of Need for Modeling of the Impact of Altered Flow through and around the Sacramento San Joaquin Delta on Delta Water Quality Issues," and "Summary: Water Quality Modeling Associated with Altered Sacramento River Flows in & around the Delta," Report to CWEMF Stormwater Committee, by G. Fred Lee & Associates, El Macero, CA, March (2009). http://www.gfredlee.com/SJR-Delta/Model-Impact-Flow-Delta.pdf

Review of Delta Stewardship Council (DSC)'s Delta Independent Science Board (DISB) comments on Bay Delta Conservation Plan (BDCP) WaterFix Draft Recirculated EIR/SEIS

On September 30, 2015 the DSC DISB submitted comments to the DSC on the draft EIR/EIS (http://deltacouncil.ca.gov/docs/final-delta-isb-comments-partially-recirculated-draft-environmental-impact-reportsupplemental). The ISB comments were reviewed by the DSC on October 23, 2015 and accepted by the Council.

Those comments noted several "data gaps" and stated,

"Environmental impacts of California WaterFix need to be assessed more completely and clearly."

The DISB comments included a section "Water Quality (Chapter 8)" that summarized several

deficiencies in the WaterFix draft REIR/SEIS Water Quality discussion of the impacts of the Sacramento River Tunnel Diversion project. Comments included the following, referencing pages of Chapter 8:

> *"8-75, line 6: The failure to consider dissolved P (DP) should be addressed; there is much greater uncertainty. The adherence of some P to sediment does not prevent considerable discharge of P as DP. Also on page 8-95 line 40, qualify predictions due to lack of consideration of DP."*

We strongly support the DISB's comment that the draft WaterFix REIR/SEIS is significantly deficient in its failing to evaluate the importance of dissolved inorganic phosphorus as a key component in impacting Delta water quality, especially Central Delta phytoplankton-related water quality. As discussed in our comments to the DSC

> Lee, G. F., and Jones-Lee, A., "Comments on the Adequacy of C. Dahm's Discussion of Delta Eutrophication Issues & Delta N/P Rations as a Cause of Adverse Impact on Delta Fish," Comments to Delta Stewardship Council, Report of G. Fred Lee &Associates, El Macero, CA, November 17 (2011). http://www.gfredlee.com/SJR-Delta/DSC-Comments-Dahm-Eutroph.pdf
>
> *"In his CWEMF nutrient modeling workshop presentation entitled, 'Impact of Sacramento River Input of Phosphorus to the Delta on Algal Growth in the Delta,' Dr. Erwin Van Nieuwenhuyse summarized his recent paper describing the response of average summer chlorophyll concentration in the Delta to an abrupt and sustained reduction in phosphorus discharge from the Sacramento County Regional Sanitation District wastewater treatment facility. His presentation provides important information on the impact of Sac Regional phosphorus discharge on Delta planktonic algae in the Delta, and is available at, http://www.cwemf.org/workshops/DeltaNutrientsWrkshp/VanNieuwenhuyse.pdf.*
>
> *"As discussed in the van Nieuwenhuyse's workshop presentation and published paper, vanNieuwenhuyse, E., "Response of Summer Chlorophyll Concentration to Reduced Total Phosphorus Concentration in the Rhine River (Netherlands) and the Sacramento–San Joaquin Delta (California, USA)," Can. J. Fish. Aquatic, Sci. 64(11):1529-1542 (2007). [http://www.ingentaconnect.com/content/nrc/cjfas/2007/00000064/00000011/art00006]*
>
> *and in the Lee and Jones-Lee workshop presentation, backup information, and papers referenced in their presentations, it is well-established that reducing the phosphorus loads and in-waterbody concentrations effects reductions in the phytoplankton biomass in Delta waters. This occurs even in situations in which the available phosphorus concentrations in the waterbody remain surplus compared to growth-rate-limiting concentrations. The decrease in planktonic algae in the Delta associated with decreased phosphorus loads to the Delta is important information that must be discussed in a creditable discussion of the impact of nutrients on Delta water quality."*

It is clear that the amount of dissolved phosphorus transported into the Central Delta by the Sacramento River has a significant impact on the phytoplankton population in the Central Delta. The proposed WaterFix project's diversion of Sacramento River water will impact the amount of

Sacramento River water that enters the Central Delta and thereby impact the phosphorus input to the Central Delta and the phytoplankton population in that area of the Delta. This issue should have been discussed in the draft REIS/SEIR.

DWR Response to Delta ISB draft comments on some of the deficiencies in the Delta WaterFix draft EIR/EIS

On September 16, 2015 DWR submitted the following statement (https://s3.amazonaws.com/californiawater/pdfs/63qnf_Delta_ISB_draft_statement_-_Enos_-_FINAL.pdf):

> *"Statement from Cassandra Enos-Nobriga, program manager for the California Department of Water Resources, about the Delta Independent Science Board comments on the Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for California WaterFix:*

At a recent DSC meeting Phil Isenberg, Vice-Chair of the Delta Stewardship Council, stated that he was disappointed in the DWR WaterFix REIR/SEIS response to the ISB comments. We strongly support his position. By her statement, Cassandra Enos-Nobriga, program manager for the California Department of Water Resources WaterFix, attempted to justify the grossly superficial review of the Delta ISB review of the draft EIR/EIS. Basically her response to the DISB comments repeatedly stated that the proposed Delta Tunnel WaterFix project REIS/SEIR is not required to provide a detailed comprehensive review of the potential impacts of the proposed project on Delta water quality and other Delta resource issues. This reflects a highly superficial approach taken by DWR for informing decision-makers and the public about potential impacts of the WaterFix tunnel diversion project. Based on our experience in reviewing draft EIR/EISs, that superficiality will make the draft EIS/EIR non-certifiable under judicial review.

Additional, Specific Comments on the "Public Review Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) - 508 Compliant"

Page 1-11 of http://baydeltaconservationplan.com/RDEIRS508/1_Introduction-508.pdf presents a summary of the approach used to evaluate the impact of the proposed WaterFix Tunnel project on Delta Water Quality. That section states,

> *"Delta Hydrology and Water Quality Generally, Delta hydrodynamics are defined by complex interactions between tributary inflows, tides, in-Delta diversions, and SWP and CVP operations, including conveyance, pumping plants, and operations of channel barriers and gates. The degree to which each variable impacts the overall hydrology of the Delta varies daily, seasonally, and from year to year, depending on the magnitude of inflows, the tidal cycle, and the extent of pumping occurring at the SWP and CVP pumping plants. Changes in water inflow and outflow throughout the Delta affect the water quality within the Delta, particularly with regard to salinity. It has been estimated that seawater is pushing 3 to 15 mile farther inland since development began in the Delta over 150 years ago (Contra Costa Water District 35 6 2010). Additionally, other water constituents of concern in the Delta have been identified through ongoing regulatory, monitoring, and environmental planning processes such as CALFED, planning functions of the State Water Board, and the CWA Section 303(d) list of state water bodies that do not meet applicable water quality standards. In June 2007 (with updates in February and May 2009), EPA gave final approval of a list of*

18 chemical constituents identified in the Section 303(d) list for impaired Delta waters (State Water Resources Control Board 2007). Included in this list are dichlorodiphenyltrichloroethane (DDT) and other pesticides, mercury, polychlorinated biphenyls (PCBs), and selenium."

Page 1-31 section 1.3.1 Substantive Draft EIR/EIS Revisions

"Section 2.2, Water Quality Revisions, describes additional analyses undertaken to more accurately characterize the potential for exceedances of water quality standards and summarizes associated revisions."

Those familiar with Delta water quality know that the approach that was used in DWR/USBR BDCP and WaterFix EIR/EIS and their revisions know that the approach of relying on exceedance of water quality standards (objectives) in the Delta at current water quality monitoring locations is a not reliable to assess current water quality in the Delta and certainly to evaluate the impact of altering the amount of Sacramento River that enters the Delta channels. The 305b list is limited compared to that needed to properly list the constituents and areas of the Delta that are experiencing impaired water quality. Basically the current water quality monitoring program for Delta waters is grossly deficient compared to that needed to adequately evaluate current water quality standard violations. There have been several attempts to significantly improve the current water quality monitoring program for in Delta waters. This deficiency has been recognized for many years,

Lee, G. F. and Jones-Lee, A., "Overview of Sacramento-San Joaquin River Delta Water Quality Issues," Report of G. Fred Lee & Associates, El Macero, CA (2004). http://www.gfredlee.com/SJR-Delta/Delta-WQ-IssuesRpt.pdf

Lee, G. F., and Jones-Lee, A., "Overview—Sacramento/San Joaquin Delta Water Quality," Presented at CA/NV AWWA Fall Conference, Sacramento, CA, PowerPoint Slides, G. Fred Lee & Associates, El Macero, CA, October (2007). http://www.gfredlee.com/SJR-Delta/DeltaWQCANVAWWAOct07.pdf

Lee, G. F., and Jones-Lee, A., "Delta Water Quality Standards Violations" and "Comments on Water Quality Sections of the Delta Vision Strategic Plan, Third Staff Draft – dated August 14, 2008," Submitted to Delta Vision Blue Ribbon Task Force, Sacramento, CA. Report of G. Fred Lee & Associates, El Macero, CA, September 1 (2008). http://www.gfredlee.com/SJR-Delta/DeltaVisionWQViolations.pdf

These reports present a review of Delta water quality issues as well as the need for a more comprehensive water quality monitoring program in the Delta channels.

In order to begin to eliminate the deficiencies in the Delta water quality assessment the Central Valley Reginal Water Quality Board (CVRWQB) has initiated a program to develop a comprehensive water monitoring program. This program is presented in http://www.swrcb.ca.gov/centralvalley/water_issues/delta_water_quality/comprehensive_monitoring_program/

The major problem in developing this improved monitoring program is its funding. It is still

unclear that adequate funding can be developed to carry out the needed program. Several years of a comprehensive Delta channel water quality monitoring will be needed before adequate information will be available to develop a EIR/EIS that can be developed to inform the decision makers and the public of the potential impact of the proposed WaterFix tunnel project.

The WaterFix RDEIR/SDEIS Water Quality section 8.1.3.10 addressing Nitrate/Nitrite and Phosphorus states on page 8-23:

> *"In addition, changes in ratios of nutrients may affect aquatic life by causing changes in the proportions of algal species, macrophytes and higher species (Glibert et al. 2011). While the impact of nutrient ratios on the proportions of algal species, macrophytes and higher species is unsettled within the scientific community, some analyses demonstrate that the ratio of one nutrient to another, nutrient stoichiometry, may influence primary productivity and community composition. Glibert et al. (2011) analyzed over 30 years of Delta water quality data and conclude that numerous aquatic organism population shifts were correlated with changes in the quality and quantity of nutrients.*
>
> *This relationship between nutrient ratios and organism population shifts is not unique to the Delta. Studies in Hong Kong, Tunisia, Germany, Florida, Spain, Korea, Japan and Washington D.C. (Chesapeake Bay), to name a few, have all concluded that nutrient stoichiometry influences phytoplankton community composition (Ruhl and Rybicki 2010; Ibanez et al. 2008; Hodgkiss and Ho 1997; and Glibert et al. 2004). Furthermore, studies by Glibert et al. (2004; 2006), Lomas and Glibert (1999, and Dortch (1990) concluded that diatoms have a preference for nitrate while dinoflagellates and cyanobacteria generally prefer more reduced forms of nitrogen. Hessen (1997) found that a shift from calanoid copepods to Daphnia tracked N-P changes in Norwegian lakes. Sterner and Elser (2002) found that zooplankton size, composition and growth rates changed as the N-P ratio changed. Similar changes have been observed in the Delta, though these researchers did not differentiate the form of N between nitrate and ammonium. Glibert et al. (2011) found significant correlations between nutrient ratios and the dominant zooplankton in the Delta over the last 30 years.*
>
> *The beneficial uses most directly affected by nitrogen and phosphorus concentrations are aquatic organisms (cold freshwater habitat, warm freshwater habitat, and estuarine habitat), drinking water supplies (municipal and domestic supply), and recreational activities (water contact recreation, non-contact water recreation), which can be indirectly affected by the nuisance eutrophication effects of nutrients."*

That discussion ignores the USGS and other reports of the unreliability of the Glibert nutrient ratios discussion. We discussed this issue in our comments:

> Lee, G. F., and Jones-Lee, A., "Comments on the Adequacy of C. Dahm's Discussion of Delta Eutrophication Issues & Delta N/P Rations as a Cause of Adverse Impact on Delta Fish," Comments to Delta Stewardship Council, Report of G. Fred Lee &Associates, El Macero, CA, November 17 (2011). http://www.gfredlee.com/SJR-Delta/DSC-Comments-Dahm-Eutroph.pdf

An excerpt from those comments, equally applicable to the RDEIR/SEIS, is quoted below.

> *"In our comments on the third draft of the DSC Plan,*

Lee, G. F., and Jones-Lee, A., "Comments on the Delta Stewardship Council's Third Staff Draft Delta Plan – Chapter 6 Improve Water Quality to Protect Human Health and the Environment – Released April 22, 2011," Submitted to Delta Stewardship Council, Sacramento, CA, Report of G. Fred Lee & Associates, El Macero, CA, Updated May 1 (2011). http://www.gfredlee.com/SJR-Delta/DSCThrdStaffDraft-Com.pdf

we reported the following:

"Impact of N/P Ratios on Delta Aquatic Life Resources The DSC third staff draft Chapter 6 devotes considerable attention to the writings that discuss N/P ratios in the Delta as a cause of ecosystem changes, the pelagic organism decline (POD), and of other resource problems in the Delta. The third staff draft Chapter 6 fails to mention a number of technical issues related to that concern that are discussed in the literature. For example, in his presentation cited below, Cloern discussed the lack of technical validity in the Glibert's claim that changes in N/P ratio are a cause of changes in the Delta ecosystem that has occurred in recent years.

Cloern, James "Historical Perspective on Human Disturbance in the Sacramento-San Joaquin Delta Ecosystem", Senior Research Scientist, U.S. Geological Survey Menlo Park, CA presented at National Academies of Science (NAS) National Research Council (NRC) meeting, "Sustainable Water and Environmental Management in the California Bay-Delta" held on July 13-15, 2010 in Sacramento, Ca, PowerPoint slides obtained from the NRC Public Access Records Office at www.nrc.gov/reading-rm/foia/foia-privacy.html.

In his CWEMF nutrient workshop presentation entitled, "Impact of Sacramento River Input of Phosphorus to the Delta on Algal Growth in the Delta," Dr. Erwin Van Nieuwenhuyse summarized his recent paper describing the response of average summer chlorophyll concentration in the Delta to an abrupt and sustained reduction in phosphorus discharge from the Sacramento County Regional Sanitation District wastewater treatment facility. His presentation provides important information on the impact of Sac Regional phosphorus discharge on Delta planktonic algae in the Delta, and is available at, http://www.cwemf.org/workshops/DeltaNutrientsWrkshp/VanNieuwenhuyse.pdf."

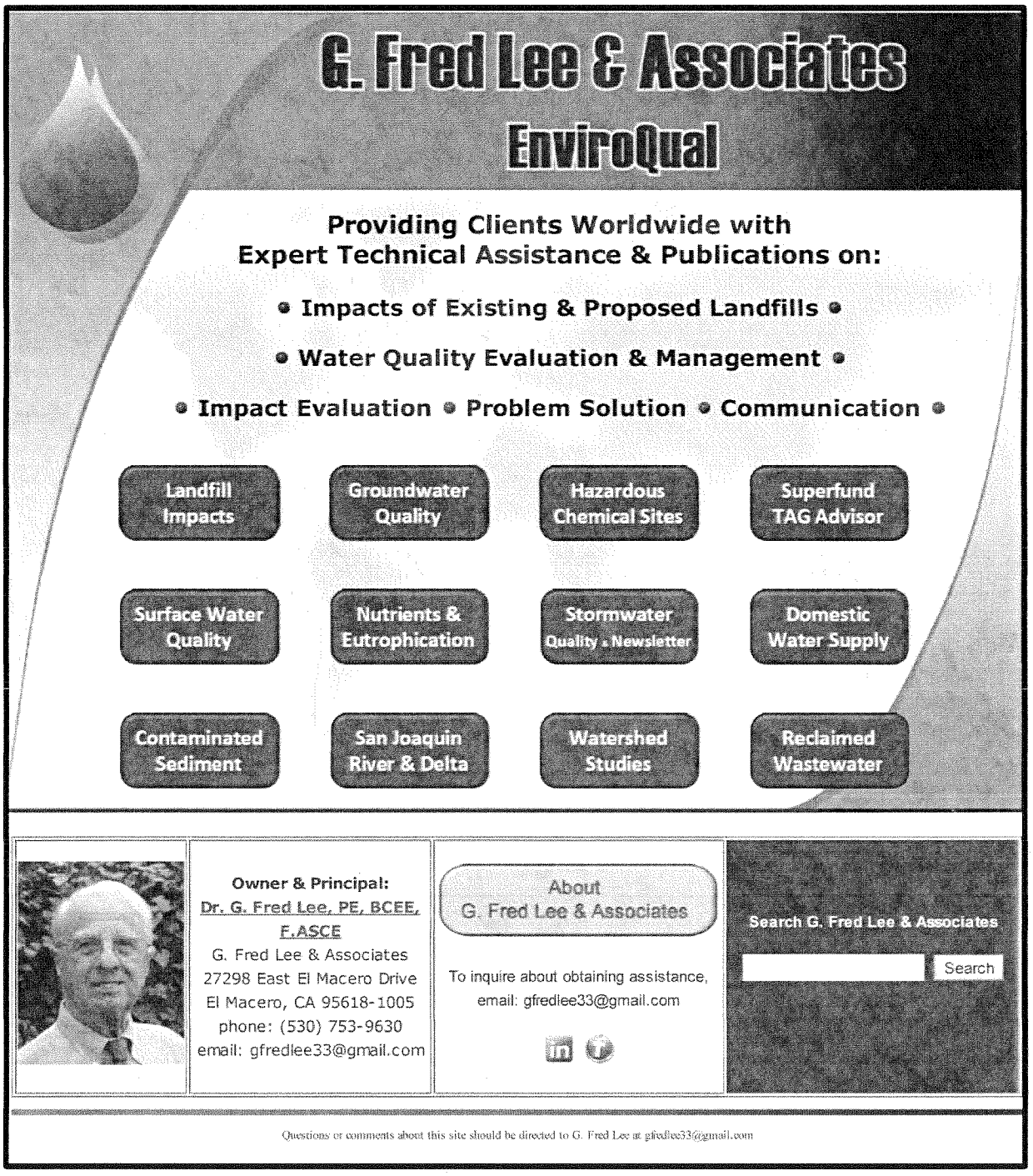
The WaterFix Tunnel RDEIR/SEIS discussion of the impact of N/P rations is unreliable reporting of the pertinent literature on this issue. The failure to discuss the findings of the USGS and other well-recognized Delta scientists results in unjustified bias in the discussion of the N/P ratio issues. This represents a significant deficiency in the RDEIR/SEIS.

We have focused our comments on deficiencies in the proposed WaterFix Tunnel project RDEIR/SEIS on water quality issues in the Central Delta as impacted by diversion of Sacramento River water. These comments are not exhaustive but rather serve to provide an example of the kinds of deficiencies that exist in the document. If the WaterFix Tunnel project were to proceed, there would be need to redo the EIR/EIS by an agency that would provide unbiased, technically valid, comprehensive review of the technical issues.

Questions or comments on these comments should be directed to G. Fred Lee at gfredlee33@gmail.com.

Visit the G. Fred Lee & Associates Website at

www.gfredlee.com



From: G Fred Lee <gfredlee33@gmail.com>
Sent: Wednesday, October 28, 2015 10:43 AM
To: BDCPcomments
Cc: Anne Lee; Bill Jennings
Subject: Comments on CA Waterfix RDEIR/SDEIS
Attachments: Comments on BDCPWaterFixREV.pdf; GFLWebpage.pdf

Attached please find our comments on the Bay Delta Conservation Plan/California WaterFix Partially RDEIR/SDEIS. If there are questions on our comments, please contact me.

G. Fred Lee, PhD, AAEES Bd. Cert. Env. Eng., F.ASCE
G. Fred Lee & Associates
27298 East El Macero Drive
El Macero, CA 95618-1005
ph: 530-753-9630
cell: 530-400-4952
fx: 530-753-4694 (turned on upon request)
em: gfredlee33@gmail.com
web site: www.gfredlee.com

RCRC

RURAL COUNTY REPRESENTATIVES
OF CALIFORNIA

October 27, 2015

Secretary Sally Jewell
U.S. Department of the Interior
1849 C Street, N.W.
Washington, DC 20240

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

Secretary Penny Pritzker
U.S. Department of Commerce
1401 Constitutional Avenue, N.W.
Washington, DC 20230

Secretary Matt Rodriquez
California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814

Administrator Gina McCarthy
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
MC 1101A
Washington, DC 20460

Transmit via Email: BDCPComments@icfi.com

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

Dear Secretaries Jewell, Laird, Pritzker, Rodriquez and Administrator McCarthy:

On behalf of the thirty-four member counties of the Rural County Representatives of California (RCRC), I appreciate the opportunity to provide comments on selected sections of the Bay Delta Conservation Plan (BDCP)/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). RCRC also want to express our appreciation that the public comment period, originally scheduled to end on August 31, 2015 has been extended to October 30, 2015.

On July 29, 2014, RCRC submitted extensive comments on the draft BDCP, Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) and the Implementing Agreement (IA). The previously released draft BDCP had been developed to support issuance of long-term incidental take permits that met the requirements of Section

10(a)(1)(B) of the federal Endangered Species Act, as well as Section 2800 *et seq.* of the California Fish and Game Code, for certain actions proposed within the statutorily defined Sacramento-San Joaquin Delta (Delta) for the term of fifty years. The RCRC July 29, 2014 comment letter can be accessed at: http://www.rcrcnet.org/sites/default/files/documents/Bay_Delta_Conservation_Plan_Ltr_07292014.pdf.

As you know, the proposed BDCP has now been recast as two separate efforts – water conveyance under California WaterFix and habitat restoration under California EcoRestore - and the effort to secure federal Habitat Conservation Plan/state Natural Community Conservation Plan (HCP/NCCP) designation has been abandoned. These comments focus primarily on California WaterFix.

Given that the RDEIR/SDEIS is currently the subject of public comment and is yet to be finalized, RCRC questions the timing of the Department of Water Resources (DWR) application to the U.S. Army Corps of Engineers (Corps) for a permit to construct the California WaterFix project. Additionally, RCRC questions the timing of the DWR and U.S. Bureau of Reclamation's (Bureau) Joint Petition to the State Water Resources Control Board (Board) for a change to water rights necessary to allow for the implementation of California WaterFix, specifically the authorization to add three additional points of diversion for both the State Water Project (SWP) and the Central Valley Project (CVP). Both the permit application before the Corps and the petition for change before the Board rely on the recirculated environmental documents for the California WaterFix project. The permit application and change petition for Alternative 4A appears to predetermine the outcome of the ongoing environmental review process. At the very least, this poses a public perception problem.

Alternative 4A, the California WaterFix identified preferred alternative, would include:

- Three intake facilities along the Sacramento River, near the communities of Clarksburg and Hood, with fish-screened, on-bank intake structures;
- Two gravity-flow water conveyance tunnels (North Tunnels) would connect the intakes to an Intermediate Forebay (IF), located northeast of Snodgrass Slough and Twin Cities Road;
- The IF would receive water from the North Tunnels, equalize pressure, and pass the water to the dual gravity-flow Main Tunnels;
- The dual main tunnels would connect the IF to the existing Clifton Court Forebay (CCF). A Pumping Plant would be located at the northeast corner of CCF to pump the water from the tunnels into the forebay;
- CCF would be expanded and divided into two parts, the North Clifton Court Forebay (NCCF) and the South Clifton Court Forebay (SCCF);
- Eleven disposal sites are proposed for tunnel material excavated from both the north tunnels and the dual main tunnels;
- The proposed project would also include a permanent operable barrier at the head of Old River;
- Operations of the three new intakes at up to 3,000 cubic feet per second each; and,
- Re-operation of the intake at the CCF.

RCRC appreciates a number of the changes made to the previous version of the BDCP including the recognition that increased north of the Delta water demand is anticipated. Despite these changes, there are concerns raised by RCRC in our July 29, 2014 comment letter that remain.

RCRC has reviewed the Delta Independent Science Board (DIS Board) draft comments on the RDEIR/SDEIS for California WaterFix dated September 14, 2015, and the DIS Board final comment letter dated September 30, 2015. The DIS Board September 30, 2015 comment letter can be accessed at: http://deltacouncil.ca.gov/docs/final-delta-isb-comments-partially-recirculated-draft-environmental-impact-reportsupplemental.

RCRC agrees with many of the DIS Board observations. The DIS Board finds that the RDEIR/SDEIS lacks completeness, defers essential material to the Final EIR/EIS, and retains a number of deficiencies from the BDCP DEIR/DEIS.

The DIS Board identified the following gaps:

- Details about the adaptive management process, collaborative science, monitoring, and the resources that these efforts will require;
- Due regard for several aspects of habitat restoration: landscape-scale, timing, long-term monitoring, and the strategy of avoiding damage to existing wetlands;
- Analyses of how levee failures would affect water operations, and how the implemented project would affect the economics of levee maintenance;
- Sufficient attention to linkages among species, landscapes, and management actions; effects of climate change on water resources; effects of the proposed project on San Joaquin Valley agriculture; and uncertainties and their consequences; and,
- Informative summaries in words, tables, and graphs that compare the proposed alternatives and their principal environmental and economic impacts.

RCRC has also reviewed the DWR statement regarding the DIS Board's comments on the DREIR/SDEIS that was issued shortly after the DIS Board released their draft comments. DWR made the case that since an HCP/NCCP designation is not being pursued, certain issues raised are beyond the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) and beyond the scope of an EIR/EIS. While this contention may be technically correct, RCRC agrees with the DIS Board's statement that given that the consequences of California WaterFix are of statewide importance circumstances *"...demand that the California WaterFix EIR/EIS go beyond legal compliance."*

While the lead agencies contend that they are not required to include certain information in the Final EIR/EIS to meet minimum CEQA and NEPA requirements, California WaterFix will be required to secure a variety of permits and will additionally be required to be found in compliance with the Delta Plan adopted by the Delta Stewardship Council. As California WaterFix and California EcoRestore will not be pursued as an HCP/NCCP, they will not be incorporated into the Delta Plan pursuant to Water Code Section 85320. Instead, the two initiatives will be subject to the consistency certification provisions of Water Code Sections 85225-85225.25. As you may know, consistency certifications can be appealed to the Delta Stewardship Council by any person who claims that an action is inconsistent with

the Delta Plan and, as a result of that inconsistency, the action will have a significant adverse impact of the achievement of one or both of the coequal goals or implementation of government-sponsored flood control programs to reduce risks to people and property in the Delta. Given this fact, RCRC suggests that the proponents of California WaterFix provide decision-makers and the public relevant information that goes beyond the minimum CEQA and NEPA requirements as urged by the DIS Board.

RCRC's primary concern remains the lack of assurances for areas upstream of the Delta and in-Delta as it relates to regional water sustainability, water rights protections, and no negative unmitigated direct or indirect impacts to the water supply, economy, and environment of these areas.

In the U.S. Environmental Protection Agency (U.S. EPA) letter to the National Marine Fisheries Service (NMFS) dated August 26, 2014, the U.S. EPA specifically addressed the issue of upstream/downstream impacts stating on page 3:

"The federal and State water management systems in the Delta are highly interconnected, both functionally and physically. The Draft EIS does not address how changes in the Delta can affect resources in downstream waters, such as San Francisco Bay, and require changes in upstream operations, which may result in indirect environmental impacts that must also be evaluated. We recommend that the Supplemental Draft EIS include an analysis of upstream and downstream impacts."

Additionally, on page 15, the U.S. EPA states:

"Upstream operational changes caused by BDCP implementation could have significant environmental and water supply impacts in the upstream areas, and these impacts must be disclosed in the DEIS."

The August 26, 2014 U.S. EPA letter can be accessed at:
http://www.ewccalifornia.org/reports/epa-bdcp-deis-comments-8-26-2014.pdf.

Despite the recommendations of the U.S. EPA noted above, the RDEIR/SDEIS states in the Water Supply, Revisions to Cumulative Impact Analyses section on pages 5-9 the following:

"None of the alternatives would modify water deliveries to non-SWP and non-CVP water rights holders, including in-Delta water rights holders. Therefore the water supply analysis addresses impacts to DWR, Reclamation, and SWP water users and CVP water service contractors, as opposed to other water rights holders, as the BDCP does not include any actions that would affect water availability to any such water rights holders."

Operations at upstream reservoirs including Central Valley Project (CVP) owned and operated reservoirs does impact non-SWP and non-CVP water rights holders. As noted in the RCRC July 29, 2014 comment letter, the 2014 drought year showed that the approach to the operations of the CVP and the SWP needs to be modified to ensure a stable supply of water is maintained in the reservoirs that feed into the CVP and SWP in order to meet the

needs of Northern California while also serving export interests and meeting requirements in the Delta. RCRC urged at that time that state and federal agencies make a commitment that operations will be modernized to accomplish this balance.

Although California WaterFix may improve water supply reliability for water contractors downstream of the Delta, it does not improve reliability for in-Delta or upstream users. RCRC continues to urge that potential impacts on in-Delta and upstream water users be analyzed and mitigated.

Please feel free to contact me if you have any questions at (916) 447-4806 or kmannion@rcrcnet.org.

Sincerely,

KATHY MANNION
Legislative Advocate

cc: Governor Jerry Brown, State of California
Director Mark Cowin, California Department of Water Resources
Director Charlton Bonham, California Department of Fish and Wildlife
Members, State Water Resources Control Board
Members, Delta Stewardship Council
Mr. Ryan Wulff, National Marine Fisheries Service
Regional Director Ren Lohoefener, U.S. Fish and Wildlife Service Pacific Southwest Region
Regional Director David Murillo, U.S. Bureau of Reclamation Mid-Pacific Region
Regional Administrator Jared Blumenfeld, U.S. Environmental Protection Agency Region 9

From: Maggie Chui <MChui@rcrcnet.org>
Sent: Wednesday, October 28, 2015 8:06 AM
To: BDCPcomments
Cc: Kathy Mannion
Subject: RCRC Ltr re BDCP WaterFix
Attachments: 2015_BDCP_WaterFix_Comment_Ltr_10272015.pdf

Good Morning,

Attached please find RCRC's comment letter re Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement.

Thank you.

Maggie Chui
Governmental Affairs Assistant
Rural County Representatives of California (RCRC)
1215 K Street, Suite 1650
Sacramento, CA 95814
Phone: (916) 447-4806
mchui@rcrcnet.org

Delta Diablo

October 27, 2015

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

SUBJECT: COMMENTS ON THE BAY DELTA CONSERVATION PLAN (BDCP) / CALIFORNIA WATERFIX PARTIALLY RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/SUPPLEMENTAL DRAFT ENVIORNMENTAL IMPACT STATEMENT (RDEIR/SDEIS)

BDCP/WaterFix Comments:

This letter is submitted to provide comments on the BDCP/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement. In addition to the comments in this letter, Delta Diablo incorporates its previous comments set forth in the attached correspondence dated July 28, 2014, January 14, 2013, June 30, 2011, February 16, 2011, May 14, 2009 and May 30, 2008. Our previous comments requested evaluation of a western Delta brackish desalination facility as part of the alternatives analysis. To date, an adequate study of a brackish desalination alternative in the western Delta has not been conducted, despite this being a potentially feasible alternative that will foster informed decision making and public participation, as well as satisfy primary objectives in the Purpose & Need Statement, which has been redefined with this latest revision.

Developing a western Delta brackish desalination facility is consistent with the Sacramento-San Joaquin Delta Reform Act of 2009, in that it can provide for a more reliable water supply for the state and protect and enhance the quality of water supply from the Delta. Initial feasibility and environmental studies have been completed by Delta Diablo, and our previous comments referenced these available studies and identified benefits (R.W. Beck, 2005[1]; Hanson Environmental, 2008[2]).
A western Delta water supply would provide new yield from brackish water after freshwater has already flowed through the Delta, providing benefits to the Delta ecosystem. As a brackish desalination facility, it would be more reliable in times of drought. Brackish desalination is a water supply alternative that can address salinity impacts from saltwater intrusion, levee failure, drought, and sea level rise. The salinity of western Delta intake locations may prove unsuitable for invasive species like Dreissenid

[1] R.W. Beck (2005, April). *Northern Contra Costa County Feasibility Level Desalination Facility Cost.* Retrieved July 23, 2014 from http://www.ddsd.org/Modules/ShowDocument.aspx?documentid=375
[2] Hanson Environmental (2008, July 18). *Western Delta Brackish Desalination Study: An Assessment of the Potential Risk to Delta Smelt & Other Sensitive Fish Species Inhabiting the Sacramento-San Joaquin Bay-Delta Estuary to Water Diversions & Discharges Associated with a Potential Western Delta Desalination Facility to Provide New Water Supplies.* Retrieved July 23, 2014 from http://www.ddsd.org/Modules/ShowDocument.aspx?documentid=374

mussels, unlike other locations in the Delta which may be susceptible to invasion, causing significant and expensive removal problems for water supply intakes and fishscreens[3]. The siting of a brackish desalination plant in the western portion of the Delta would be significantly more cost effective than an ocean desalination facility, due to comparatively lower energy demands for treatment and processing of the lower dissolved solids. In addition, new brackish desalination technologies continue to be developed that will further reduce energy needs and thus costs (Global Water Intelligence, 2015[4]).

In light of the current unprecedented drought in California, alternatives that address the project need and increase water supply should be considered. Consistent with our previous comments, alternative solutions that should be properly evaluated include, but are not limited to, water recycling; increased storage (above ground and groundwater); and, development of a new western Delta water supply which could directly supplement or replace portions of the water supply obligations of the State Water Project and/or Central Valley Project. A combination of these types of projects seems best suited to genuinely meet the modified project purpose and need, and the coequal goals of providing a more reliable water supply for California while protecting, restoring, and enhancing the Delta ecosystem.

California needs a true water fix. It is highly likely that a suite of new Delta solutions will need to be implemented as water supply demands increase with a growing population, environmental regulations change, and climate change increases variability in rainfall and snowpack levels. A true California water fix will only happen with increased investment in cost-effective solutions like brackish desalination and water recycling. These projects are critical to ensure reliable and sustainable water supplies for a healthy Delta ecosystem and the people of California.

Sincerely,

Gary W. Darling
General Manager

Attachment
cc: Delta Diablo Board of Directors
District File CORP.17.25-DOCS
Chron File

---

[3] California Natural Resources Agency (2008, October). *Invasive Mussel Guidebook for Recreational Water Managers and Users.* Retrieved fromhttp://resources.ca.gov/docs/quagga/081105_Quagga-Zebra_Guidebook.pdf

[4] Global Water Intelligence (2015, September). *Makeover Improves CD Process Efficiency.* Water Desalination Report, Vol. 51, No. 34. Retrieved October 14, 2015 from http://email.globalwaterintel-fulfilment.com/files/amf_gwl/project_10/wdr2015-34_IDA.pdf

Delta Diablo

July 28, 2014

Via email BDCP.comments@noaa.gov

Mr. Ryan Wulff
National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814

SUBJECT: COMMENTS ON THE BAY DELTA CONSERVATION PLAN (BDCP) DRAFT EIR/EIS AND DRAFT BAY DELTA CONSERVATION PLAN

Dear Mr. Wulff:

This letter is submitted to provide comments on the Bay Delta Conservation Plan (BDCP) draft Environmental Impact Report/Environmental Impact Study (EIR/EIS) and the draft BDCP. In addition to the comments in this letter, Delta Diablo incorporates its previous comments set forth in the attached correspondence dated May 30, 2008, May 14, 2009, February 16, 2011, June 30, 2011, and January 14, 2013.

Delta Diablo's previous comments recommended consideration of potentially feasible and reasonable alternatives, including a western Delta brackish desalination facility. Initial feasibility and environmental studies on such a facility have been conducted, and our previous comments referenced these available studies (R.W. Beck, 2005[1]; Hanson Environmental, 2008[2]). It appears that the BDCP draft EIR/EIS considered a similar project, described as a San Joaquin River diversion near Antioch and desalination facilities with conveyance ("Initial Screening Conveyance Alternative B7", page 3A-12). However, the intake capacity considered in the draft EIR/EIS is so large (15,000 cubic feet per second (cfs)) that it easily justified rejection of the alternative during the screening process due to potential impacts (see draft EIR/EIS page 3A-49, lines 39-46; page 3A-50 lines 1-7; item 11 on Table 3A-2 on page 3A-102; item 11 on Table 3A-3 on page 3A-105; and item 11 on Table 3A-20.).

No explanation was found to explain why 15,000 cfs was used in the evaluation of Alternative B7, but of note is that the preferred alternative under California Environmental Quality Act (CEQA) (Alternative 4) assumes three new intakes with total capacity of 9,000 cfs, (page 3-13 lines 2-6), and that alternative had been downsized from an earlier proposal of 15,000 cfs (page 3-12, lines 16-18). The studies we referenced in our earlier comments assume initial pilot facilities (5-10 million gallons per day (mgd) production) with discussion of scaling up to a 50

[1] R.W. Beck (2005, April). *Northern Contra Costa County Feasibility Level Desalination Facility Cost.* Retrieved July 23, 2014 from http://www.ddsd.org/Modules/ShowDocument.aspx?documentid=375

[2] Hanson Environmental (2008, July 18). *Western Delta Brackish Desalination Study: An Assessment of the Potential Risk to Delta Smelt & Other Sensitive Fish Species Inhabiting the Sacramento-San Joaquin Bay-Delta Estuary to Water Diversions & Discharges Associated with a Potential Western Delta Desalination Facility to Provide New Water Supplies.* Retrieved July 23, 2014 from http://www.ddsd.org/Modules/ShowDocument.aspx?documentid=374

mgd production facility or higher in the future. However, the largest capacity discussed in the Hanson Environmental (2008) report is 700 cfs, which is orders of magnitude lower than the 15,000 cfs that was assumed in the draft EIR/EIS and used as the basis for rejecting further evaluation of a western Delta desalination alternative.

While 700 cfs capacity is significantly less than the preferred alternative, capacity alone is not a basis for rejecting further evaluation of an alternative. Consideration of an alternative with lower capacity is consistent with the project purpose, as stated on pages 2-5, lines 9-11: "Alternatives that depict design capacities or operational parameters that would result in deliveries of less than full contract amounts are consistent with this purpose." Therefore, it appears inappropriate to screen Alternative B7 using an intake capacity that is orders of magnitude larger than considered in the studies we have referenced, and also 40% higher than the intake capacity evaluated for preferred Alternative 4.

Another comment used to reject Alternative B7 from further consideration was the statement provided on Page 3A-50, lines 10-12: "Presence of delta smelt and longfin smelt in the western Delta during the period when high flows would occur in the Sacramento River could reduce the effectiveness of a western Delta intake". This is contrary to the referenced study by Hanson Environmental (2008, page 8) which states "Under higher flow years, both larvae of longfin smelt and delta smelt tend to occur in highest densities further downstream in the vicinity of Pittsburg." Based on this information, the Antioch area as referenced in Alternative B7 could be an effective location for a western Delta intake in order to minimize impacts to fish during high flows.

Table 3A-2 provides a "not likely" assessment for Alternative B7 with regard to whether the alternative avoids or substantially lessens any of the expected significant effects, further stating that the western Delta intake could affect delta smelt populations through entrainment. However, the intake alternatives that were evaluated within this BDCP draft EIR/EIS state they would include "self-cleaning, positive barrier fish screens designed to be protective of salmonids and delta smelt" (page 3-26, lines 1-5). This is the same description provided in the referenced environmental study for a western Delta brackish desalination facility, along with a description of how it could be operated flexibly to reduce and avoid entrainment of larval fish (Hanson Environmental, 2008, page 11).

Another conflicting statement in the BDCP draft EIR/EIS regarding Alternative B7 is found on page 3A-50, lines 12-14: "During July through November, salinity could be too high to [*sic*] for diversions from the western Delta, especially as sea level rise progresses through the end of the study period in 2060." Considering that alternative B7 involves desalination, the BDCP draft EIR/EIS presents an incorrect assessment. The value and advantage of the suggested desalination facility located in the western Delta would be the ability to accommodate flexible operations independent of the range of salinity conditions occurring within the source waters (Hanson, 2008, page 11). In addition, brackish desalination is a water supply alternative that can address salinity impacts from saltwater intrusion, levee failure, drought, or sea level rise.

Table 3A-2 again cites the 15,000 cfs intake capacity for Alternative B7, stating it would require a three-mile shoreline intake and a desalination facility several square miles in size. It further states that the 15,000 cfs flows could result in substantial energy use and related greenhouse gas emissions. Apart from the unreasonable assumption of a 15,000 cfs intake addressed above, brackish desalination costs as presented by R.W. Beck (2005) may be 1/3 the cost of ocean desalination. In addition, more energy efficient desalination technologies are currently being developed, including forward osmosis, capacitive desalination, and other methods which have the potential to significantly reduce energy use (and project operation cost) over current state-of-the art technologies.

From these statements in the BDCP draft EIR/EIS, it is apparent that Alternative B7 was not adequately evaluated or "carefully considered", as described in footnote 3 on page 3A-2. A brackish desalination facility located in the western Delta is consistent with the BDCP draft EIR/EIS purpose and need, and can improve water supply reliability. Alternative 4 in the draft EIR/EIS and CM1 in the draft BDCP provide minimal to no relief or improvement with regard to the need to address declining water supply delivery volumes and water quality. In light of the current unprecedented drought in California, alternatives that address the project need and increase water supply should be considered. Consistent with our previous comments, all Delta solutions should be explored, including, but not limited to re-operation of the state and federal projects; decreasing water supply obligations through conservation, water transfers, and recycling; increased storage (above ground and groundwater); engineered solutions to redirect flows through above-ground and below-surface conveyance, and development of a new western Delta water supply which could directly supplement or replace portions of the water supply obligations of the State Water Project and/or Central Valley Project. A combination of these types of projects seems best suited to genuinely meet the project need identified in section 2.5 of Chapter 2 of the BDCP draft EIR/EIS. As the designation of a preferred CEQA alternative is tentative and is subject to change pending comments and public input (Page 3-4, lines 1-8), these alternatives warrant further consideration in the BDCP EIR/EIS.

Sincerely,

Gary W. Darling
General Manager

JS:dcj

Attachment

cc: District File CORP.17.25-DOCS
Chron File

Delta Diablo Sanitation District

OFFICE AND TREATMENT PLANT: 2500 PITTSBURG-ANTIOCH HIGHWAY, ANTIOCH, CA 94509-1373
TEL.: (925) 756-1900 ADMIN. FAX: (925) 756-1961 MAINT. FAX: (925) 756-1963 OPER. FAX: (925) 756-1962 ENGINEERING SVCS. FAX: (925) 756-1960
www.ddsd.org

January 14, 2013

VIA ELECTRONIC MAIL

Ms. Cindy Messer
Delta Plan Program Manager
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

SUBJECT: COMMENTS ON RECIRCULATED DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT FOR THE DELTA PLAN

Dear Ms. Messer:

The Delta Diablo Sanitation District (District) submits this letter in response to the November 30, 2012, Notice of Availability of a Recirculated Draft Program Environmental Impact Report for the Delta Plan. The District previously provided written comments to the Delta Stewardship Council on the Notice of Preparation for the Draft Environmental Impact Report in February, 2011, and on the Fourth Draft of the Delta Plan in June, 2011. The comments provided in this letter are consistent with the previous comments submitted by the District.

The District understands and fully supports the coequal goals in the Delta Plan, as set out in the Delta Reform Act of 2009: *providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem.* To that end, the District continues to pursue the development and implementation of long-term sustainable resource development projects that further the District's long-standing commitment to progressive environmental stewardship. Because of the broad scope and complexity of the environmental challenges the Delta faces, the District recognizes a suite of projects will be required to achieve the coequal goals of the Delta Plan. Accordingly, in response to the Notice of Preparation for the Draft Environmental Impact Report for the Delta Plan, the District provided a comment letter to the Delta Stewardship Council in February, 2011 (copy enclosed), recommending the planning and environmental review of a new water supply in the western part of the Delta, in addition to the other alternatives under consideration. Subsequently, in June, 2011, the District provided comments on the Fourth Draft of the Delta Plan (copy enclosed) outlining in detail the significant benefits of a western Delta water supply alternative, and the distinct advantages of this concept over any other alternative under consideration.

Based upon the feasibility studies completed by the District, the western Delta water supply would provide new yield from water that has already flowed through the Delta, providing benefits to the Delta ecosystem. The siting of a brackish desalination plant in the western portion of the Delta would be significantly more cost effective than an ocean desalination facility, due to comparatively lower energy demands for treatment and processing of the lower dissolved solids. Because of the significant advantages of brackish desalination over ocean desalination, the District recommends identifying brackish water desalination as a distinct type of reliable water supply project in Section 2 and Section 3 of the Recirculated Draft Environmental Impact Report.

Thank you for this opportunity to provide comments on the Delta planning process. You may contact me at garyd@ddsd.org or call me at (925) 756-1920.

Sincerely,

for

Gary W. Darling
General Manager

DE:lk/dcj

Enclosures

cc: DDSD Board of Directors
Mary Piepho, Supervisor, District III
John Greitzer, Contra Costa County Water Agency
Robert Pyke, Consultant
Richard Denton, Consultant
John Cain, American Rivers
District File RWF.CORRES-XX
Chron File

Delta Diablo Sanitation District

OFFICE AND TREATMENT PLANT: 2500 PITTSBURG-ANTIOCH HIGHWAY, ANTIOCH, CA 94509-1373
TEL.: (925) 756-1900 ADMIN. FAX: (925) 756-1961 MAINT. FAX: (925) 756-1963 OPER. FAX: (925) 756-1962 TECH. SVCS. FAX: (925) 756-1960
www.ddsd.org

June 30, 2011

VIA ELECTRONIC MAIL

Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

SUBJECT: COMMENTS ON THE FOURTH DRAFT OF THE DELTA PLAN (AN "OUT OF THE BOX" CONCEPT)

Dear Chairman Isenberg and Council Members:

The Delta Diablo Sanitation District (DDSD) submits this letter in response to the fourth draft of the Delta Plan issued by the Delta Stewardship Council. The comments provided are consistent with previous comments submitted in response to the December 10, 2010 Notice of Preparation for the Environmental Impact Report (EIR) for the Delta Plan, as well as comments provided during the Bay Delta Conservation Planning (BDCP) process. It is often said in the presentations that are made regarding the Delta Planning process that the Council is looking for all ideas on addressing Delta challenges, including "out of the box" ideas that may not have been considered before.

"Out of the Box" Concept

Analyze a new Delta water supply in the western Delta that could directly supplement or replace portions of the water supply obligations of the State Water project (SWP) and/or the Central Valley Project (CVP).

DDSD Background

DDSD is located at the western edge of the statutory Delta and provides wastewater treatment services to approximately 200,000 residents in the cities of Antioch, Pittsburg and the community of Bay Point. In addition, DDSD provides recycled water service to two major power plants that have a capacity to serve over 1 million homes (3% of the electricity generated in California). A key objective included in DDSD's 2010 Strategic Business Plan is to *"Establish a leadership role in developing regional solutions to common water and wastewater challenges."* To that end, DDSD is leading three regional coalitions that include over 35 Bay Area agencies to proactively and collaboratively pursue water recycling, biosolids to energy, and household hazardous waste solutions.

DDSD recognizes that there likely is not one individual solution that will adequately address the water supply and environmental challenges that the Delta faces. The District fully supports the coequal goals in the Draft Delta plan: *"Achieve the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem."* All Delta solutions should be explored, including, but not limited to re-operation of the state and federal projects; decreasing water supply obligations through conservation, water transfers, and recycling; increased storage (above ground and groundwater); and engineered solutions to redirect flows

through above-ground and below-surface conveyance. It is highly likely that a whole suite of new Delta solutions will need to be implemented over time as water supply demands change, increased environmental regulations are imposed, and climate change impacts the Delta.

Delta Plan Comment:
Include a western Delta water supply alternative in the Delta Plan.

In **Chapter 4** of the Draft Delta Plan, the challenges associated with developing new statewide storage and conveyance are addressed: *"The state must be prepared for the possibility that it could take many more years for the state to select, build, and operate large-scale storage and conveyance improvement projects. As an interim step toward increasing the state's water supply reliability, the state should consider smaller, more incremental operational and storage improvements.... may significantly enhance the operational flexibility of the state's system and improve the state's water supply reliability."* Studies have shown that a western Delta diversion could address the need for operational flexibility in a fish friendly way.

In **Chapter 6** of the Draft Delta Plan, the need to improve the water quality to protect human health and the environment is addressed: *"Improving water quality is key to achieving the coequal goals...Water quality in the Delta is influenced by climatic conditions (freshwater inflows and drought cycles), in-Delta water and land uses, tidal influences, and in-Delta and export diversions and operations. Water quality is generally better in the north Delta than in the central and southern Delta because Sacramento River inflows are greater than inflows from the San Joaquin River, and because the proportion of agricultural drainage discharges into the San Joaquin River is greater than discharges into the Sacramento River."* If water diversions were to occur in the western Delta that included advanced treatment for salts, nutrients, and other constituents of concern, the usage and subsequent return flows to the Delta could result in higher quality return water and less salt distributed in the watershed.

A Western Delta Diversion Concept Defined
The western Delta concept would include the potential use of existing (or construction of new) point(s) of diversion in the western Delta, west of the Antioch Bridge, that would allow the SWP and/or the CVP to divert water during times when those projects diversions are limited by environmental constraints or by increased levels of salinity. Having new point(s) of diversion available would give the **SWP and CVP the flexibility to avoid impacts to protected aquatic species that move from the western Delta into the central Delta during lower flow periods when salinity increases in the western Delta.** During those times, the water in the western Delta is brackish and would require treatment (desalination) prior to being usable for agricultural or domestic supplies. However, that treated water would essentially become a **drought-proof, fish "friendly" new or supplemental water supply that is "on-demand" and could potentially not require any new storage.** A very attractive aspect of an "on-demand" western Delta water supply is that, compared to other alternatives under consideration in the Delta Plan, a western Delta alternative could generate **new yield from water that has already flowed through the Delta and provided many of the environmental benefits.**

A western Delta water supply fits in very well with the goals outlines in **Chapter 4** related to statewide storage and conveyance. A western Delta intake(s) would provide operational flexibility for the state and federal systems. DDSD completed technical studies in 2005 and 2008 that concluded that a western Delta water supply treatment system is very cost competitive with the development of any new water supply, and can be operated in a way to avoid impacts to protected aquatic species. In addition, a western Delta treated water supply addresses the water quality goals outlined in **Chapter 6**. Simply put, if the water diverted from the Delta is treated to reduce or eliminate salts and other water quality constituents of concern before it is delivered to agricultural, industrial or domestic users, then the watershed runoff, tail water, and treated effluent will be of a higher water quality. The impacts associated with land applying salty water south of the Delta would be lessened significantly.

The feasibility level studies the District has completed to date include a fisheries study prepared by Hanson Environmental and a technical feasibility study prepared by RW Beck, Inc. Copies are available on DDSD's website at www.ddsd.org located under the tab titled Regional Coalitions. The studies provide the following conclusions:

1) Location of a brackish desalination plant in the western portion of the Delta costs a third of energy and dollar costs compared to developing a desalination project in the San Francisco Bay or the Pacific Ocean. The main reason this is true is because the salinity fluctuations are a third or less than the bay or ocean (i.e., the Total Dissolved Solids (TDS) in the western Delta ranges from 500 mg/l to 14,000 mg/l, while the bay and ocean TDS are 30,000 mg/l). Depending on the partners investing in the project, the cost to construct and operate a project varies from approximately $500/acre-foot to $900/acre-foot.

2) The water from a brackish water desalination facility can be treated to any level desired, from bottled water quality for human consumption, to a very much improved low salinity water supply for agricultural purposes. Generating and utilizing a high quality, low salinity water source helps to decrease the salinity levels in outfalls and/or runoff.

3) An intake in the western part of the Delta can be operated in a fish-friendly way by installing state-of-the-art fish screens and avoiding pumping periods when protected aquatic species cannot be adequately screened (i.e., during the egg and larvae stage).

4) Brine disposal is feasible in the western portion of the Delta by exporting the brine further to the west where salinity levels rise dramatically as the Delta empties into the bay. A desalination project does not add mass, but it does increase concentration. Brine discharge considerations will need to include not impacting other users of Delta water, as well as not impacting protected species.

5) A brackish western Delta desalination project is scalable. Preliminary capital cost estimates (completed in 2006) indicate that a five million gallon per day (MGD) project could be constructed for approximately $25 million, a 50 MGD project for $250 million, and up to a **million acre foot/year project (i.e., new drought-proof yield) for $3.5 billion (treatment**

facility cost only). A major benefit of a brackish desalination project in the western Delta is that it is "on-demand" and potentially would not require any new storage. While a million acre-foot-facility is larger than any desalination facility in the world and may not be practical in the short run, the projected costs should be appealing for a project of a smaller scale facility that produces new yield, compared to other alternatives being investigated.

6) DDSD has publicly-owned assets that could be made available for a starter project in the 5 to 10 MGD range. A starter project could be used to validate current cost estimates and better measure any environmental impacts of diversion and brine disposal. Some pilot testing has been completed.

Thank you for this opportunity to comment on the Delta planning process. Please do not hesitate to contact me at garyd@ddsd.org, or call me at (925) 756-1920.

Sincerely,

Gary W. Darling
General Manager

GWD:dj

cc: DDSD Board of Directors
District File RWF.CORRES-13
Chron File

Delta Diablo Sanitation District

OFFICE AND TREATMENT PLANT: 2500 PITTSBURG-ANTIOCH HIGHWAY, ANTIOCH, CA 94509-1373
TEL.: (925) 756-1900 ADMIN. FAX: (925) 756-1961 MAINT. FAX: (925) 756-1963 OPER. FAX: (925) 756-1962 TECH. SVCS. FAX: (925) 756-1960
www.ddsd.org

February 16, 2011

VIA ELECTRONIC MAIL

Ms. Terry Macaulay
Deputy Executive Officer
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

SUBJECT: COMMENTS ON NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE DELTA PLAN

Dear Ms. Macaulay:

The Delta Diablo Sanitation District (DDSD) submits this letter in response to the December 10, 2010 Notice of Preparation for the Environmental Impact Report (EIR) for the Delta Plan issued by the Delta Stewardship Council. The comments provided are consistent with previous comments submitted to the Bay Delta Conservation Planning (BDCP) process.

DDSD is located at the western edge of the statutory Delta and provides wastewater treatment services to a population of approximately 200,000, as well as provides recycled water service to two major power plants that have a capacity to serve over 1 million homes. DDSD's Strategic Plan gives priority to the development of long term sustainable resource development projects that further the District's commitment to progressive environmental stewardship. To that end, the District has taken a leadership role in a 14-agency coalition that has secured a federal partnership to deliver 30,000 acre-feet of recycled water in the Bay Area with an additional 40,000 acre-feet in the project planning and design phase. In addition, the District is taking a lead role in a 16-agency coalition that is developing a biosolids to energy project that is envisioned to provide an alternative biosolids disposal option that will process biosolids into a green renewable energy supply for the Bay Area, while reducing greenhouse gas impacts.

DDSD recognizes that there likely is not one individual solution that will adequately address the environmental challenges that the Delta faces. All solutions should be explored, including re-operations of the State and Federal projects; decreasing water supply obligations through conservation, water transfers, and recycling; increased storage; engineered solutions to redirect flows, etc. One solution that should be included in the planning and environmental review of any forward planning in the Delta is the development of a new water supply from the western part of the Delta. Such a water supply could be fish "friendly" by diverting water during times when protected species have moved into the Delta interior; less energy intensive than a traditional ocean desalination supply alternative since the western Delta is brackish; be an "on-demand," new water supply that does not require storage; and be located in a region where there are existing major diversion points and water transmission facilities.

The feasibility level studies the District has completed to date include a fisheries study prepared by Hanson Environmental and a technical feasibility study prepared by RW Beck, Inc (copies are available upon request). The studies provide the following conclusions:

1) Location of a brackish desalination plant in the western portion of the Delta costs only a third in terms of energy and dollar costs compared to developing a desalination project in the San Francisco Bay or the Pacific Ocean. The main reason this is true is because the salinity fluctuations are a third or less than the other two water sources (i.e., the TDS in the western Delta ranges from 500 mg/l to 14,000 mg/l, while the Bay and Ocean TDS are 30,000 mg/l). Depending on the partners investing in the project, the cost to construct and operate a project varies from approximately $500/acre-foot to $900/acre-foot. A key concept regarding this cost is that it is for a NEW, on-demand water supply compared to other alternatives under consideration that do not provide additional water supplies.

2) The water from a brackish water desalination facility can be treated to any level desired, from bottled water quality for human consumption to a very much improved low salinity water supply for agricultural purposes. Generating and utilizing a high quality, low salinity water source helps to decrease the salinity levels in outfalls and/or runoff.

3) An intake in the western part of the Delta can be operated in a fish-friendly way by installing state-of-the-art fish screens and avoiding pumping periods when protected aquatic species cannot be adequately screened (i.e., during the egg and larvae stage).

4) Brine disposal is feasible in the western portion of the Delta by exporting the brine further to the west where salinity levels raise dramatically as the Delta empties into the Bay (i.e., a desalination project does not add mass, but does increase concentration).

5) A brackish desalination project is scalable in the western portion of the Delta and could be considered as a supplemental water supply for the Bay Area, or a water supply component for other water users of the State and Federal water projects. Preliminary capital cost estimates (completed in 2006) indicate that a five million gallon per day (MGD) project could be constructed for approximately $25 million, a 50 MGD project for $250 million and up to a million acre foot/year project for $3.5 billion. A major benefit of a brackish desalination project in the western Delta is that it is drought proof and requires no new storage.

Thank you for this opportunity to comment on the Delta planning process. DDSD's location and existing publically-owned assets could prove to be very strategic in the development of a new water supply in the western Delta. Please do not hesitate to call me at (925) 756-1920.

Sincerely,

Gary W. Darling
General Manager

GWD:dj

cc: DDSD Board of Directors
District File RWF.CORRES-13
Chron File

bdcpcomments

From: Darling, Gary [GaryD@ddsd.org] **Sent:** Thu 5/14/2009 1:07 PM
To: bdcpcomments
Cc:
Subject: BDCP Scoping Comments
Attachments: SDOC2556.pdf(583KB)

Attached are comments for the BDCP scoping process. It is the same comment letter sent on May 30, 2008, in response to the first scoping period. Please include this input in the environmental review process. I am happy to answer any questions or provide any clarifications.

The concept of developing a new water supply in the western part of the Delta should be evaluated at an equal level of detail as any of the project concepts that involve moving water from the north around the Delta. A water supply project in the western part of the Delta allows the water to flow through the Delta and provide the necessary fishery benefits.

Gary W. Darling

General Manager

Delta Diablo Sanitation District

(925) 756-1920

Cell: (925) 382-4350

Delta Diablo Sanitation District

OFFICE AND TREATMENT PLANT: 2500 PITTSBURG-ANTIOCH HIGHWAY, ANTIOCH, CA 94509-1373
TEL.: (925) 756-1900 ADMIN. FAX: (925) 756-1961 MAINT. FAX: (925) 756-1963 OPER. FAX: (925) 756-1962 TECH. SVCS. FAX: (925) 756-1960
www.ddsd.org

May 30, 2008 (corrected date)

Via Facsimile No. (916) 651-9563

Ms. Delores Brown
Office of Environmental Compliance
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236

Via Facsimile No. (916) 978-5528

Ms. Patti Idlof
Bureau of Reclamation
2800 Cottage Way, MP–150
Sacramento, CA 95825

SUBJECT: COMMENTS ON NOTICE OF PREPARATION AND NOTICE OF INTENT FOR THE BAY DELTA CONSERVATION PLAN ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT

Dear Ms. Brown and Ms. Idlof:

The Delta Diablo Sanitation District (DDSD) submits this letter in response to the March 17, 2008 Notice of Preparation and Notice of Intent to prepare an Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for the Bay Delta Conservation Plan (BDCP).

DDSD is located at the western edge of the statutory Delta and provides sewage treatment services to a population of approximately 200,000, as well as provides recycled water service to two major power plants that have a capacity to serve over 1 million homes. DDSD's Strategic Plan gives priority to the development of long term sustainable resource development projects that further the District's commitment to progressive environmental stewardship. To that end, the District has taken a leadership role in securing a federal partnership for seven new recycle water projects in the Bay Area. The recent authorization signed by the President includes two projects in the District's service area that will deliver recycled water to two golf courses and seven city parks. In addition, the District is taking a lead role in the development of a biosolids to energy project that is envisioned to provide an alternative biosolids disposal option that will process biosolids into a green renewable energy supply for the Bay Area.

DDSD recognizes that there likely is not one individual solution that will adequately address the environmental challenges that the Delta faces. All solutions should be explored, including re-operations; decreasing water supply obligations through conservation, water transfers, and recycling;

increased storage; engineered solutions to redirect flows, etc. One solution that should be included in the planning and environmental review of the BDCP is the development of a new water supply from the western part of the Delta. Such a water supply could help relieve the Delta of its water supply obligations, as well as allow precious upstream reservoir releases to flow through the Delta prior to diversion.

Over the past three years, the District has completed feasibility level studies on locating a new fish friendly, high quality water supply project within the DDSD service area. The project would divert water out of one or more of the existing water supply intakes owned by others within the District's service area, and utilize advanced treatment to convert the brackish water from the western part of the Delta into a high quality water supply for urban or agricultural purposes. The District is located within an industrial corridor and has several publicly owned assets that could be utilized in the development of a new water supply project, including land and outfall capacity. The studies are in the process of being shared with the local water agencies. DDSD understands that at least one of the agencies, Dublin San Ramon Services District (DSRSD), has sent a scoping letter in with a request to include a western Delta brackish water supply in BDCP planning and environmental review process. This letter outlines the conclusions of the studies completed to date, and invites further exploration of a new water supply project that could provide direct relief of the Delta water supply obligations shared by the state and federal projects.

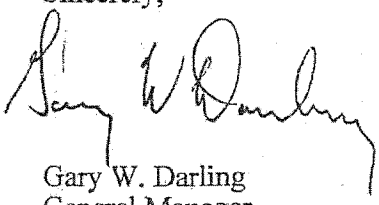
The feasibility level studies the District has completed include a fisheries study and a technical feasibility study that includes cost estimates (copies are available upon request). The studies provide the following conclusions:

1) Location of a brackish desalination plant in the western portion of the Delta costs only a third in terms of energy and dollar costs compared to developing a desalination project in the San Francisco Bay or the Pacific Ocean. The main reason this is true is because the salinity fluctuations are a third or less than the other two water sources (i.e., the TDS in the western Delta ranges from 500 mg/l to 14,000 mg/l, while the Bay and Ocean TDS are 30,000 mg/l). Depending on the partners investing in the project, the cost to construct and operate a project varies from approximately $500/ acre-foot to $900/ acre-foot.
2) The water from a brackish water desalination facility can be treated to any level desired, from bottled water quality for human consumption to a very much improved low salinity water supply for agricultural purposes. Generating and utilizing a high quality, low salinity water source helps to decrease the salinity levels in outfalls and/or runoff.
3) A new intake in the western part of the Delta can be operated in a fish friendly way by installing state-of-the-art fish screens, and avoiding pumping periods when protected aquatic species cannot be adequately screened (i.e., during the egg and larvae stage).
4) Brine disposal is feasible in the western portion of the Delta by exporting the brine further to the west where salinity levels raise dramatically as the Delta empties into the Bay (i.e., a desalination project does not add mass, but does increase concentration).

5) A brackish desalination project is scalable in the western portion of the Delta and could be considered as a supplemental water supply for the Bay Area, or a water supply component for other water users of the State and Federal water projects. Preliminary capital cost estimates (completed in 2006) indicate that a five million gallon per day (MGD) project could be constructed for approximately $25 million, a 50 MGD project for $250 million, up to a million acre-foot/year project for $3.5 billion. A major benefit of a brackish desalination project in the western Delta is that it is drought proof, and requires no new storage.
6) While Bay or ocean desalination projects are considered energy intensive, brackish desalination projects use much less energy. For example, the energy required to treat brackish waters in the western Delta, plus the pumping required to deliver the water to Southern California is less than an ocean desalination and delivery project located in Southern California.
7) A brackish desalination project located in the western portion of the Delta is in close proximity to major water conveyance facilities owned by Bay Area water utilities (approximately one mile), and could be used to deliver water to over five million Bay Area residents. In addition, the western Delta water supply is located approximately 20 miles from the state and federal pumping facilities.

Thank you for this opportunity to comment on the BCDP EIR/EIS process. DDSD will continue to monitor the process and encourages a local, state, and/or federal partnership to develop a new water supply from the western Delta. Please do not hesitate to call me at (925) 756-1920.

Sincerely,



Gary W. Darling
General Manager

GWD:dj

cc: DDSD Board of Directors
Bert Michalczyk, Dublin San Ramon Services District
Jill Duerig, Zone 7
Terry Erlewine, State Water Contractors
William Rohwer, Mid Pacific Region, USBR
District File No. RWF.CORRES-9
Chron File

From: Strommer, Jayne <jaynes@deltadiablo.org>
Sent: Wednesday, October 28, 2015 9:53 AM
To: BDCPcomments
Subject: BDCP WaterFix Comments
Attachments: 2015 1027 BDCP Comments & attachments - Delta Diablo.pdf

Please see the comment letter and attachments. Thank you.

Jayne Strommer
Government Affairs Manager | Delta Diablo
2500 Pittsburg-Antioch Hwy, Antioch, CA 94509
p 925.756.1910 f 925.756.1960
www.deltadiablo.org | JayneS@deltadiablo.org

Delta Diablo

TRANSFORMING WASTEWATER TO RESOURCES