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December 15, 2015

Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24<sup>th</sup> Floor  
Sacramento, CA 95814

Sent via e-mail to [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

**Subject: Comment letter- Bay Delta Phase II Working Draft Science Report**

The following comments are offered by the Sacramento Regional County Sanitation District (Regional San) on the Working Draft Scientific Basis Report (Draft SBR). Regional San owns the Sacramento Regional Wastewater Treatment Plant (SRWTP) in Elk Grove and operates the plant in accordance with its National Pollutant Discharge Elimination System (NPDES) permit. Many of the NPDES permit requirements are tied to conditions in the Lower Sacramento River and the Delta ecosystem. In addition, Regional San currently provides approximately 3.5 million gallons per day (mgd) of recycled water for beneficial reuse, with an existing water right order to provide up to 10 mgd of recycled water. Regional San is also in the process of constructing its EchoWater Project, a nearly \$2 billion investment that will provide disinfected tertiary treated effluent suitable for recycling and reuse for a broad range of purposes.

Regional San is a stakeholder involved in multiple venues regarding the understanding and interpretation of Delta science pertaining to water quality and ecosystem health. We appreciate the opportunity to provide the following comments supporting the emphasis on flow related science in the Draft SBR, and offer some minor recommendations for improving the portrayal of Delta water quality, as well as general comments regarding consolidating modeling information and considerations regarding recycled water projects.

Regional San supports the use of sound science and joint fact finding in making important management and policy decisions for protecting the Delta ecosystem. There is a significant amount of scientific evidence provided in Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, suggesting that (1) current flows are insufficient, (2) habitat factors and other stressors are influenced by flow, and (3) survival and abundance of many key aquatic species improves with increased flows. Accordingly, the Draft SBR's focus on flows is appropriate and critical for improving ecosystem health.

As the Draft SBR notes in Chapter 4, Other Aquatic Ecosystem Stressors, science and management efforts related to water quality is being addressed through Regional Water Board programs for managing various "contaminants," including pesticides,

ammonia/ammonium, mercury, selenium and nutrients. Detailing these individual scientific efforts in the Draft SBR would be overwhelming, and would distract the focus from the importance of flows to the ecosystem. Therefore, we encourage that the final SBR continue to focus on flows and not lose its focus from the main goal of providing the scientific basis for determining appropriate flow criteria for the Sacramento River watershed and Delta. In this regard, Regional San also encourages the State Board to examine and evaluate the scientific basis for more tailored functional flow objectives that are designed to have targeted benefits for specific and multiple beneficial uses.

Regarding Chapter 4, we have a few specific recommendations, as follows.

1. On page 4-5, section 4.3.1.1, Pesticides and Other Pollutants, The last sentence states that wastewater effluent is suggested as a “.....significant loading of pyrethroids...” It should be noted that science and monitoring has not been done to determine relative loadings of pesticides from stormwater, agriculture, and wastewater sources. We recommend removing the word “significant” until the scientific work is completed through the Central Valley Water Boards pyrethroid Total Maximum Daily Load/Basin Plan Amendment. We also recommend that Draft SBR recognize the Central Valley Water Board source control program for pyrethroids coordination efforts with the California Department of Pesticide Regulation and USEPA’s pesticide regulatory programs to prevent pyrethroids, and other pesticides, from impacting the Delta ecosystem.
2. On page 4-7, section 4.3.1.3, Ammonia/Ammonium, The Draft SBR should be updated to reference information generated at the November 29-30, 2016 Central Valley Water Board workshop on nutrient forms and ratios. For instance, the recent research about nutrient effects on the ecosystem performed by Tamara Krauss et al. (in press), and Berg et al. (in press)<sup>1</sup> and others at USGS should be referenced. The Draft SBR should also reference the development of the white paper by an independent panel as a result of the November workshop and the need to review and incorporate the findings of that white paper into the Final SBR.
3. On page 4-8, section 4.3.2, Low Dissolved Oxygen, In the first paragraph, the word “sewage” is used in a list of examples, and should only be included if the reference is to a sewage spill, i.e. from a boat. In the context of the sentence, the more likely example is “treated wastewater effluent.” Therefore, we recommend changing “sewage” to “treated wastewater effluent,” or delete the word altogether.

#### General Comments:

1. We recommend that the final SBR have a section with graphics, schematics, and flow charts on the use of various models and their integration. The graphics should depict methods on how models are used to estimate various flows. Examples of models to include in a modeling section include CalSim II, SVUFM, SacWAM, WEAP, Dayflow, DICU and DETAW. The section should include all models developed and used for the final SBR.
2. Lastly, Regional San is planning for a substantial increase in recycled water services using the high quality effluent that will be available once the EchoWater Project comes on line. Accordingly, Regional San has a wastewater petition for change pending before the State Water Resources Control

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<sup>1</sup> Kraus, T. E. C., K. D. Carpenter, B. A. Bergamaschi, A. Parker, E. B. Stumpner, B. D. Downing, N. M. Travis, F. P. Wilkerson, C. Kendall and T. D. Mussen. (In press). Controls on riverine phytoplankton dynamics in the presence and absence of treated wastewater effluent high in ammonium—A Lagrangian based study. *Limnology & Oceanography*.

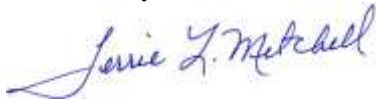
Berg G. M., S. E. Thomas, K. Negrey, M. Ross and R. M. Kudela (in Press). Variation in growth rate, carbon assimilation, and photosynthetic efficiency in response to nitrogen source and concentration in phytoplankton isolated from upper San Francisco Bay. *Journal of Phycology*.

Board (State Water Board) for the South Sacramento County Agriculture & Habitat Lands Recycled Water Program (Project), which proposes to reduce discharges from SRWTP by up to 50,000 acre-feet per year. Regional San also intends to pursue other recycled water projects in the future. As such, Regional San again reminds the State Water Board that when considering modifications to any flow requirements in the update to the Bay-Delta Plan, the State Water Board should not assume that the amount of discharges from the SRWTP will continue at existing or previous levels. (See Regional San's attached letter dated October 17, 2012, to the State Water Board regarding this issue.)

Overall the Draft SBR is very detailed and focused, with a good synthesis of a significant amount of scientific information. We hope that the final SBR will maintain its primary focus on the science related to flows, to help guide the establishment of functional flow objectives. We also hope our recommendations help improve the final SBR, which we look forward to reviewing.

If you have any questions please contact me at or 916-876-6092 ([mitchellt@sacsewer.com](mailto:mitchellt@sacsewer.com)) or Linda Dorn at 916-876-6030 ([dornl@sacsewer.com](mailto:dornl@sacsewer.com)).

Sincerely,



Terrie L. Mitchell  
Manager of Legislative & Regulatory Affairs

Attachment: Regional San's October 17, 2012, letter – Bay-Delta Plan Review – Other Comments:  
Accounting for the Sacramento Regional Wastewater Treatment Plant flows

cc: Prabhakar Somavarapu, District Engineer  
Christopher Dobson, Director Policy and Planning  
Lisa Thompson, Chief Scientist  
Tim Mussen, Scientist  
Linda Dorn, Environmental Program Manager



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October 17, 2012

Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24<sup>th</sup> Floor  
Sacramento, CA 95814



Via email to [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

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**Subject: Bay-Delta Plan Review – Other Comments: Accounting for the Sacramento Regional Wastewater Treatment Plant Flows**

Dear Ms. Townsend:

The Sacramento Regional County Sanitation District (SRCSD) appreciates the opportunity to provide these additional comments and further input for the State Water Resources Control Board’s (SWRCB) Bay Delta Plan. In this regard, the SWRCB’s revised August 16, 2012 notice for the workshops states: “As part of this solicitation, the State Water Board is also requesting that interested persons, whether they are participating in the workshops or not, submit all other information that they believe the State Water Board should be considering in Phase II of the State Water Board’s review of the Bay-Delta Plan.”

**Board of Directors**

Representing:

- County of Sacramento
- County of Yolo
- City of Citrus Heights
- City of Elk Grove
- City of Folsom
- City of Rancho Cordova
- City of Sacramento
- City of West Sacramento

The purpose of this additional comment letter is to remind the SWRCB that when the modeling and environmental review are conducted regarding any proposed modifications to the Bay Delta Plan, the SWRCB and other parties should not assume that the amount of discharges from SRCSD’s Sacramento River Wastewater Treatment Plant (SRWTP) will continue at existing or previous levels. Instead, any such modeling and related analysis should account for the contingency that SRCSD may substantially decrease its treated wastewater discharges to the Sacramento River in order to pursue recycled water projects. In this regard, Figure 4 of the 2006 Bay-Delta Plan provides that the average daily discharges from SRWTP are one of the itemized components used in calculating the Delta Inflow portion of the Net Delta Outflow Index (NDOI) computation. (For convenience, a copy of Figure 4 is enclosed herewith.) Since those calculated discharge quantities are likely to substantially decrease in the future, the modeling and environmental review for the Plan Update should discuss and appropriately account for this contingency.

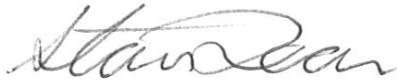
- Stan Dean  
District Engineer
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- Prabhakar Somavarapu  
Director of Policy & Planning
- Karen Stoyanowski  
Director of Internal Services
- Joseph Maestretti  
Chief Financial Officer
- Claudia Goss  
Public Affairs Manager

<sup>1</sup> The District could also pursue water rights applications under Water Code Section 1486, and pursue dedications of water for environmental and ecosystem benefits under Water Code Section 1212 and 1707. Such projects would also affect how discharges from SRCSD’s treatment plant should be accounted for in calculating Delta Inflow under the NDOI.

Ms. Jeanine Townsend  
October 17, 2012  
Page 2

SRCSO greatly appreciates the SWRCB's consideration of these additional comments. If the SWRCB and its staff have any further questions or need additional information regarding these matters, please contact me at (916) 875-9101 ([deans@sacsewer.com](mailto:deans@sacsewer.com)) or Prabhakar Somavarapu at 916-875-9116 ([somavarapup@sacsewer.com](mailto:somavarapup@sacsewer.com)).

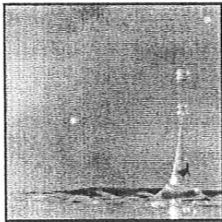
Sincerely,

A handwritten signature in cursive script that reads "Stan Dean".

Stan Dean  
District Engineer

cc: Prabhakar Somavarapu, Director of Policy and Planning

Enclosure: Figure 4 of the 2006 Bay-Delta Plan



# **Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary**

**December 13, 2006**



**Water Boards**  
STATE WATER RESOURCES CONTROL BOARD  
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Division of Water Rights  
December 2006



## FIGURE 4

### NDOI and PERCENT INFLOW DIVERTED <sup>1</sup>

The NDOI and the percent inflow diverted, as described in this figure, shall be computed daily by the DWR and the USBR using the following formulas (all flows are in cfs):

$$NDOI = DELTA INFLOW - NET DELTA CONSUMPTIVE USE - DELTA EXPORTS$$

$$PERCENT INFLOW DIVERTED = (CCF + TPP) \div DELTA INFLOW$$

where  $DELTA INFLOW = SAC + SRTP + YOLO + EAST + MISC + SJR$

- SAC** = Sacramento River at Freeport mean daily flow for the previous day; the 25-hour tidal cycle measurements from 12:00 midnight to 1:00 a.m. may be used instead.
- SRTP** = Sacramento Regional Treatment Plant average daily discharge for the previous week.
- YOLO** = Yolo Bypass mean daily flow for the previous day, which is equal to the flows from the Sacramento Weir, Fremont Weir, Cache Creek at Rumsey, and the South Fork of Putah Creek.
- EAST** = Eastside Streams mean daily flow for the previous day from the Mokelumne River at Woodbridge, Cosumnes River at Michigan Bar, and Calaveras River at Bellota.
- MISC** = Combined mean daily flow for the previous day of Bear Creek, Dry Creek, Stockton Diverting Canal, French Camp Slough, Marsh Creek, and Morrison Creek.
- SJR** = San Joaquin River flow at Vernalis, mean daily flow for the previous day.

where  $NET DELTA CONSUMPTIVE USE = GDEPL - PREC$

- GDEPL** = Delta gross channel depletion for the previous day based on water year type using the DWR's latest Delta land use study.<sup>2</sup>
- PREC** = Real-time Delta precipitation runoff for the previous day estimated from stations within the Delta.

and where  $DELTA EXPORTS$  <sup>3</sup> =  $CCF + TPP + CCC + NBA$

- CCF** = Clifton Court Forebay inflow for the current day.<sup>4</sup>
- TPP** = Tracy Pumping Plant pumping for the current day.
- CCC** = Contra Costa Canal pumping for the current day.
- NBA** = North Bay Aqueduct pumping for the current day.

1 Not all of the Delta tributary streams are gaged and telemetered. When appropriate, other methods of estimating stream flows, such as correlations with precipitation or runoff from nearby streams, may be used instead.

2 If up to date channel depletion estimates are available they shall be used. If these estimates are not available, DAYFLOW channel depletion estimates shall be used.

3 The term "Delta Exports" is used only to calculate the NDOI. It is not intended to distinguish among the listed diversions with respect to eligibility for protection under the area of origin provisions of the California Water Code.

4 Actual Byron-Bethany Irrigation District withdrawals from Clifton Court Forebay shall be subtracted from Clifton Court Forebay inflow. (Byron-Bethany Irrigation District water use is incorporated into the GDEPL term.)