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**Subject: Phase II Bay-Delta Plan Input**

The Sacramento Regional County Sanitation District (Regional San) provides the following comments in response to the State Water Resources Control Board's (State Water Board) October 4, 2017 Notice of Opportunity to Provide Input to Inform the Development of the Program of Implementation for the Phase II Update of the Bay-Delta Water Quality Control Plan. 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 our 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 the EchoWater Project, a nearly \$2 billion investment that will provide disinfected tertiary-treated effluent, that will be ready for reuse for a broad range of purposes, including habitat restoration.

Regional San supports the use of sound science and joint fact finding in making important management and policy decisions for protecting the Delta ecosystem. We are supportive of the fact that the State Water Board is seeking early public engagement in the form of answers to specific questions on program implementation, to help address the implementation of new proposed water quality objectives. Regional San is highly involved in multiple stakeholder venues regarding the understanding and interpretation of Delta science pertaining to water quality and ecosystem health. We are an active participant in the Delta Regional Monitoring Program (RMP) and Delta Nutrient Research Plan processes, and work collaboratively with multiple stakeholders representing various interests and perspectives.

We appreciate the opportunity to provide the following comments pertaining to Question 7 and Question 8 as set forth in the October 4, 2017 notice (which are restated below):

*Question 7. How should the State Water Board structure adaptive management for the new objectives?*

Our comments are primarily focused on the consideration of Other Aquatic System Stressors, and, in particular, Water Quality conditions, as described in Chapter 4 of the Phase II Scientific Basis Report (Science Report), in the adaptive management process.

1. **Finalization of Science Report.** We previously provided comments on the October 2016 Draft Scientific Basis Report. Since then, Chapter 4 of the report has been significantly modified, including additions of text, information and citations pertaining to contaminants. We are concerned that the modified Science Report has not been publicly reviewed prior to finalization and that specific language in the Science Report might be relied upon as part of implementation of an adaptive management framework. We request that the Adaptive Management Framework include a process for public input and comment prior to using the information in the current Science Report as the basis for decisions. We understand that two of the five peer reviewers provided some mention of Chapter 4 in their comments. In reviewing those comments, we do not believe that they reflect the depth of analysis required to support “expert endorsement” for the issues cited below, or otherwise replace detailed review of the Science Report by diverse stakeholders with scientific expertise in the Delta.
2. **Specific Comments on Science Report.** To provide context for the above request, we are providing the following specific comments on the current version of the Science Report.
  - a. Page 4-1: The opening paragraph of Chapter 4 – Other Aquatic Ecosystem Stressors includes a statement taken from Mount et al. 2012 that “these stressors occur both within the delta and upstream in the greater watershed and are unfavorable and unnatural attributes of the ecosystem, leading ultimately to diminished populations and, in the worst case, extinction of native species.” It should be noted that “altered flow regimes” (i.e., the flow stressor) is one of the five stressors addressed in Mount et al. 2012. The use of this statement in the first paragraph of the “Other Stressors” chapter is misleading. It seems that this statement should more appropriately be placed in the first chapter of the Science Report. Otherwise, it implies that “Other Stressors” (i.e. non-flow factors) are responsible for population-level effects, or extinction. This was not the conclusion of the Mount et al. 2012 report.
  - b. Page 4-7: The second paragraph of Section 4.3.1 on Contaminants contains the statement “...the consequences of sub-lethal pollutant effects on keystone species that play a disproportionate role in controlling ecosystem function may manifest throughout the entire ecosystem (Clements and Rohr 2009).” It should be noted that the cited paper is not specific to the Delta, is not based on demonstration of effects on keystone species in the Delta, and is appropriately characterized as a paper describing the theory of community ecotoxicity. These qualifiers need to be considered in interpreting the information in the Science Report.
  - c. Page 4-9: The first paragraph includes the statement that “...pyrethroids and other insecticides have been implicated as one of the factors in the decline in the population of

Delta smelt and other pelagic fishes (Sommer et al. 2007; Orlando 2013; Fong et al. 2016).” With regard to the report by Orlando 2013, this statement does not reflect conclusions reached in the report. Neither of the other two papers provide definitive or conclusive evidence linking pyrethroids or insecticides to population level effects of Delta fish species. The use of the word “implicated” is therefore misleading and could lead to false conclusions regarding the strength of available science on this issue. Such a misconception could lead to ill-advised adaptive management decisions.

- d. Page 4-12: The first sentence of the second paragraph states: “Special studies in the Bay-Delta estuary have shown that endocrine disrupting chemical (EDC) substances are present and may be causing organismal and population level effects (Brander et al. 2013; Tadesse 2016; Riar et al, 2013). Neither the report by Tadesse 2016 nor the paper by Riar et al. 2016 studied population level effects of EDCs in the Bay-Delta. The study by Brander et al. 2013 examined the question of “population level” effects to Mississippi silverside (*Menidia audens*) in the Suisun Marsh area, a localized area in the Bay-Delta. Since none of these studies provides evidence of population level effects applicable to or representative of the Bay-Delta, we believe that the sentence is misleading and should be modified prior to use in an adaptive management framework.
- e. Page 4-13: In the first sentence of the last paragraph, reference is made to the relative contribution of ammonia to the Delta from the SRWTP. Recent work performed for the Delta RMP Nutrient work group has provided information to better characterize seasonal ammonia concentrations and transformations within the Delta (Delta RMP 2017, work in development). This new information should be used in any adaptive management framework going forward.
- f. Page 4-14: In the second paragraph, next to last sentence, it is stated “...two regional boards recently held a joint workshop to evaluate the role that NH<sub>4</sub>, other nutrients, and nutrient ratios play on algal growth and species composition in the Bay-Delta estuary.” In fact, a white paper has been prepared (Ward and Paerl 2017) which provides the synthesis of information presented at this workshop. This new information should be used in the adaptive management framework going forward, together with the other information that is being developed under the Central Valley Water Board Delta Nutrient Research Plan.

*8. How should the State Water Board ensure that non-flow measures included in voluntary tributary or regional plans are implemented in a timely and effective manner?*

Projects and programs to address non-flow measures are often referenced in the Scientific Report generically as “non-flow actions.” The Science Report identifies these non-flow measures as necessary to be addressed and integrated with flow measures. The State Water Board correctly recognizes that local expertise within watersheds and coordination and cooperation with interested parties is critical for successful plan development and implementation. However, we would suggest that in soliciting local expertise, that it also be recognized that it is important that these efforts be transparent and provide the opportunity for robust stakeholder input.

Regional San is currently planning for a substantial increase in recycled water reuse as part of the South Sacramento County Agricultural and Habitat Lands Recycled Water, Groundwater Storage,

and Conjunctive Use Program (South County Ag Program). This Program will deliver up to 50,000 acre feet of recycled water per year to approximately 16,000 acres of land in southern Sacramento County, near the Cosumnes River, providing significant ecosystem benefits through increased groundwater levels and resultant surface water streamflow augmentation. This type of innovative water recycling and reuse project that supports irrigated agriculture, groundwater, ecosystem, and flow restoration benefits should be considered as a “non-flow measure” for the Cosumnes River tributary in the Phase II Bay-Delta Plan.

Regional San has a wastewater petition for change pending before the State Water Board for implementing the South County Ag Program. We look forward to completing the petition for change process in a timely manner, and appreciate the Water Board’s review and processing of that petition. We want to remind the State Water Board that any new flow objectives developed in the Phase II Bay-Delta Plan Update should not assume that the amount of discharge from the SRWTP will continue at existing or previous levels.

We hope that the above comments will be considered in the development and implementation of the Phase II Bay-Delta Plan Update.

If you have any questions please contact me at or 916-876-6092 ([mitchellt@sacsewer.com](mailto:mitchellt@sacsewer.com)) or Sam Safi at 916-876-62900 ([safis@sacsewer.com](mailto:safis@sacsewer.com)).

Sincerely,



Terrie L. Mitchell  
Manager of Legislative & Regulatory Affairs

cc: Prabhakar Somavarapu, District Engineer  
Christoph Dobson, Director Policy and Planning  
Lisa Thompson, Chief Scientist  
Tim Mussen, Scientist  
Sam Safi, Associate Engineer

*Citations:*

*Ward, A. K. and H. W. Paerl. 2017. Delta Nutrients Forms and Ratios Public Workshop: "Role of Nutrients in Shifts in Phytoplankton Abundance and Species Composition in the Sacramento-San Joaquin Delta" 2017. Report prepared by Central Valley Regional Water Quality Control Board Workshop Panel Members. Available 11/3/2017. [https://www.waterboards.ca.gov/centralvalley/water\\_issues/delta\\_water\\_quality/delta\\_nutrient\\_research\\_plan/science\\_work\\_groups/index.shtml](https://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/delta_nutrient_research_plan/science_work_groups/index.shtml)*

*Delta RMP. 2017. Assessment of Nutrient Status and Trends in the Delta 2001-2016. Prepared by Thomas Jabusch, Phil Trowbridge, Adam Wong, and Matthew Heberger (this work is still in development by the Delta RMP workgroup)*