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April 10, 2019

Paul Souza  
Pacific Southwest Regional Director  
U.S. Fish and Wildlife Service  
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Barry Thom  
Regional Administrator  
National Marine Fisheries Service, West Coast Region  
1201 Northeast Lloyd Blvd., Suite, 1100  
Portland, OR 97232  
Barry.thom@noaa.gov

Delivered via email

Re: Re-initiation of Section 7 Consultation Addressing Coordinated Long-Term Operation of the Central Valley Project (CVP) and State Water Project (SWP)

Dear Mssrs. Souza and Thom:

The Sacramento Regional County Sanitation District (Regional San) is pleased to provide the following comments and recent scientific journal articles and related expert reports in connection with the request by the U.S. Bureau of Reclamation (Reclamation) for Re-initiation of Section 7 Consultation Addressing Coordinated Long-Term Operation of the Central Valley Project (CVP) and State Water Project (SWP) (Consultation). The attached documents provide important evidence relevant to Reclamation's January 31, 2019 Biological Assessment (BA). Specifically, the BA discussion of cumulative impacts contained in Chapter 6.3- Wastewater Treatment Plants, which focuses on the potential impacts of ammonia discharged from the Sacramento Regional Wastewater Treatment Plant (SRWTP), which is operated by Regional San.

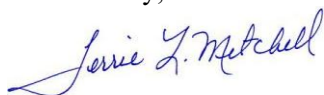
On page 6-2, the BA discusses ammonia toxicity concerns related to various fish species, including delta smelt. It references articles by Connon et al. (2011) and Wicks et al. (2002) and cites various effects of ammonia on fish. As presented, the reader may presume that the cited studies were performed at environmentally relevant concentrations in the Delta and/or were focused on impacts from the SRWTP discharge of treated wastewater to the Sacramento River. However, review of the articles in question indicates that neither is the case. The cited effects on coho salmon, rainbow trout, delta smelt and other fish species have not been demonstrated in the Delta and have not been linked to the SRWTP discharge. The document should be revised to clarify this potentially misleading text.

On page 6-2, the BA also states that "another important potential concern is that ammonium inputs have slowed diatom growth in the Delta and Suisun Bay, thereby reducing the productivity in the delta smelt food web (Wilkerson et al., 2006, Gilbert et al. 2011, Dugdale et al. 2016), in combination with other factors such as invasive

clams.” Unfortunately, the BA fails to mention a number of more recent studies that have addressed this issue and have offered information that contradicts the hypotheses offered in the cited studies. Recent experiments indicate that phytoplankton productivity is not affected by elevated ammonia concentrations in regions of the Delta in the vicinity of the SRWTP discharge (Kraus et al. 2017). Laboratory experiments also indicate that diatoms, as a group, are not at a competitive disadvantage to other phytoplankton when ammonia is the dominant form of nitrogen (Berg et al. 2017). In addition, a recent independent review of available science indicates that multiple biotic and abiotic factors are regulating phytoplankton growth in the Delta (Ward and Paerl 2017). These studies should be noted in the BA text to provide a balanced presentation of available science.

Regional San respectfully requests that both National Marine Fisheries Service and the U.S. Fish and Wildlife Service (together, “Services”) consider the enclosed recent scientific journal articles, expert opinions and supporting evidence in connection with the Consultation. Please share this letter and enclosures with the appropriate staff at your agencies with responsibility for the Consultation. Regional San and its experts are available to answer any questions the Services may have in connection with their review of the BA and development of new or modified biological opinions for the coordinated operation of the CVP and SWP. If you have any questions, please contact me at (916) 876-6092 or mitchellt@sacsewer.com.

Sincerely,



Terrie L. Mitchell  
Manager, Legislative and Regulatory Affairs

Enclosures:

- A. Berg, G. M., Driscoll, S., Hayashi, K., Ross, M., & Kudela, R. 2017. 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*, 53(3), 664-679.
- B. Kraus, T.E.C., K.D. Carpenter, B.A. Bergamaschi, A.E. Parker, E.B. Stumpner, B.D. Downing, N.M. Travis, F.P. Wilkerson, C. Kendall, and T.D. Mussen. 2017. A river-scale Lagrangian experiment examining controls on phytoplankton dynamics in the presence and absence of treated wastewater effluent high in ammonium. *Limnology and Oceanography* 00(00): 1-20.
- C. Ward, A.K. and Paerl, H.W. Submitted 2017 (in review). Delta Nutrients Forms and Ratios Public Workshop: “Role of Nutrients in Shifts in Phytoplankton Abundance and Species Composition in the Sacramento-San Joaquin Delta.” November 29-30, 2016. Sacramento, CA.
- D. Expert Report of William L. Goodfellow, Jr., BCES, dated April 29, 2016
- E. Expert Report of Susan C. Paulsen, Ph.D., P.E., dated April 29, 2016
- F. Expert Report of William A. Bennett, Ph.D., dated May 2, 2016
- G. Rebuttal Report to the Report of Paul Damian, Ph.D., M.P.H., D.A.B.T., by Susan C. Paulsen, Ph.D., P.E., dated May 27, 2016
- H. Rebuttal Report by William A. Bennett, Ph.D., dated May 30, 2016
- I. Expert Rebuttal Report of Gry Mine Berg, Ph.D., dated May 31, 2016
- J. Rebuttal Report of William L. Goodfellow, Jr., BCES, dated May 31, 2016

cc: Ernest Conant – U.S. Bureau of Reclamation  
Maria Rea – National Oceanic & Atmospheric Administration  
Prabhakar Somavarapu – District Engineer, Regional San  
Christoph Dobson – Director of Policy & Planning, Regional San  
Kelley Taber, Somach, Simmons and Dunn