



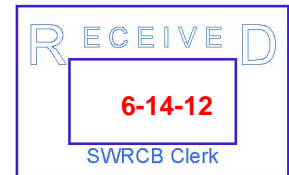
# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
San Francisco Bay-Delta Fish and Wildlife Office  
650 Capitol Mall, Suite 8-300  
Sacramento, California 95814



JUN 14 2012

Ms. Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
PO Box 100  
Sacramento CA 95812-0100



Subject: Comments to the State Water Resources Control Board on the Draft Order reviewing the Wastewater Discharge Requirements Order No. R5-2010-0114 [NPDES No. CA0077682] for Sacramento Regional Wastewater Treatment Plant, May 15, 2012.

Dear Ms. Townsend:

The U.S. Fish and Wildlife Service (Service) submits these comments on the draft order reviewing the NPDES permit (#CA0077682) for the Sacramento Regional Wastewater Treatment Plant (SRWTP), dated May 15, 2012. On October 6, 2010, the Service provided comments and technical advice to California Central Valley Regional Water Quality Control Board (Regional Board) staff on the “tentative” permit criteria and associated needs of endangered species during development of the SRWTP 2010 NPDES permit. We also provided technical assistance to the Regional Board and the Sacramento Regional County Sanitation District (SRCSD) in the development of the study of the SRWTP temperature discharge required by the permit.

## Background

In December of 2010, the Regional Board issued a new, more stringent NPDES permit to SRCSD which required the facility to conduct tertiary treatment by 2020. In January 2011, SRCSD and California Sportfishing Protection Alliance (CSPA) petitioned the State Water Resources Control Board (State Board) to review the permit on a wide range of contentions. On May 14, 2012, the State Board issued a draft order addressing the petitions by the SRCSD and CSPA. Contentions not discussed in the draft order were dismissed by the State Board.

The Service’s comments on the draft order focus on the effects of the NPDES permit on fish and wildlife with emphasis on delta smelt. In 2010, the Service found delta smelt warranted for uplisting to endangered due to increasing threats to the species. The process of reclassification of the delta smelt from threatened to endangered status is currently precluded, however, by other higher priority listing actions.

The range of delta smelt extends from San Pablo Bay upstream to about Verona on the

Ms. Jeanine Townsend

Sacramento River, though the majority of the population occupies the portion of the range extending from western Suisun Bay/Marsh to about the city of Sacramento on the Sacramento River. Formerly abundant, the delta smelt population has declined, especially since the early 1980's resulting in its listing as threatened in 1993. Reasons for its decline include changes in outflow from the Delta, entrainment losses to water diversions, changes to food organisms, toxic substances, disease, competition and predation (USFWS 1995).

Delta smelt enter the Sacramento River and Deep Water Ship Channel from late December to June to spawn in temperatures between 12-18°C. Delta smelt critical habitat in the Sacramento River extends north to the confluence with the American River. Pre-spawning adults could be expected in the vicinity of the city of Sacramento from the latter part of December through June. Spawning on the mainstem of the Sacramento River may occur particularly during years of low freshwater discharge. Some larvae could be expected in the vicinity of the city of Sacramento during February-June. During the larval stage, delta smelt are the most vulnerable to zones of poor water quality or high water temperature due to their restricted mobility.

### Comments

The Service concurs with the State Board's findings on the protection of aquatic endangered species related to ammonia and nitrate.

"In this case...the Central Valley Water Board had before it ample evidence showing that the 1999 Criteria are not sufficiently protective. The record indicates that existing levels of ammonia in the receiving water are not protective of aquatic life beneficial uses downstream of the discharge even though the receiving water does not exceed the 1999 Criteria."

Available data indicates that discharges of nitrogen as ammonia and nitrate may be adversely affecting the Delta through both zooplankton toxicity and by inhibiting the uptake of nitrogen by phytoplankton (Jassby 2008; Dugdale *et al.* 2007). Concentrations of ammonia below the SRWTP have exceeded concentrations shown to negatively affect juvenile *Pseudodiaptomus forbesi* (Foe *et al.* 2010; Teh *et al.* 2010), a principle food source for larval and pelagic fishes including delta smelt and the federal candidate species longfin smelt.

The Service also supports the consideration of the ecological and aquatic effects on the Delta from nitrate as a biostimulatory substance. As in our previous letter to the Regional Board mentioned above, the Service encourages further efforts to develop numeric nutrient criteria for the Delta. We commend the efforts to date to develop nutrient numeric endpoints and encourage their consideration when determining nutrient effluent limitations for the SRWTP.

### Conclusion

In order to be adequately protective of listed fishes, the Service recommends the State Board adopt the draft order as proposed. The Service appreciates this opportunity to comment. If you have any questions or comments on this letter, please contact Roger Guinee of my staff at (916) 930-5679.

Ms. Jeanine Townsend

Sincerely,



Michael A. Chotkowski  
Field Supervisor

cc: Pamela Creedon, Executive Officer, CVRWQCB  
Elizabeth Sablad, Environmental Scientist, NPDES Permits, EPA Region 9

**Literature Cited**

Dugdale, Richard C., Frances P. Wilkerson, Victoria E. Hogue and Albert Marchi. 2007. The role of ammonium and nitrate in spring bloom development in San Francisco Bay. *Estuarine, Coastal and Shelf Science* 73: 17-29.

Foe, C., A. Ballard and S. Fong. 2010. Nutrient concentrations and biological effects in the Sacramento-San Joaquin Delta. July 2010. Regional Water Quality Control Board, Central Valley Region, California Environmental Protection Agency.

Jassby, Alan. 2008. Phytoplankton in the upper San Francisco Estuary: recent biomass trends, their causes and their trophic significance. *San Francisco Estuary and Watershed Science* 6(1): 1-24

Teh, Swee, Ida Flores, Michelle Kawaguchi, Sarah Lesmeister, and Ching Teh. 2011. Full life-cycle bioassay approach to assess chronic exposure of *Pseudodiaptomus forbesi* to ammonia/ammonium. Submitted to the State Water Board, UC Davis Agreement No. 06-447-300. Aquatic Toxicology Program, School of Veterinary Medicine, UC-Davis, California. August 31, 2011.