Central Valley Clean Water Association

Representing Over** Fifty **Wastewater Agencies

September 6,2011

VIA ELECTRONIC MAIL AND FIRST CLASS U.S. MAIL

Chad Dibble
Department of Fish and Game
830 S Street
Sacramento, CA 95811
cdibble@dfg.ca.gov

Re: Comments on Draft Ecosystem Restoration Program Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions July 2011

Dear Mr. Dibble:

The Central Valley Clean Water Association (CVCWA) appreciates the opportunity to offer comments on the Draft Ecosystem Restoration Program (ERP) Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions July 2011 (ERP Conservation Strategy).

CVCWA is a non-profit organization whose membership consists of more than 50 publicly-owned treatment works (POTWs) throughout the Central Valley region. CVCWA represents its members throughout the Sacramento and San Joaquin River Valleys in regulatory matters affecting surface water discharges and land application of treated effluent. We are submitting comments because the ERP Conservation Strategy has the potential to impact Central Valley POTWs and their operations. Further, it is important that the ERP Conservation Strategy accurately reflect the current scientific understanding on key issues related to wastewater treatment plant discharges and the existing regulatory procedures for managing the quality of wastewater discharges.

First, CVCWA is very concerned with the statement in section **1,** Stressors, on page 61, with respect to key steps in successfully improving Delta water quality. Specifically, the second bullet states that implementing advanced treatment at wastewater treatment plants discharging to Delta source waters and implementing source control programs for their service area is a key step for improving water quality. CVCWA believes that it is highly inappropriate for the ERP Conservation Strategy to conclude that advanced treatment is necessary for improving Delta water quality. Whether or not a POTW may need advance treatment is based on a number of different factors that are evaluated during the permit review process. Regional Water Quality Control Boards (Regional Boards) must evaluate effluent quality and the receiving water and then adopt effluent limitations that are protective of the receiving water's beneficial uses and ensure compliance with applicable water quality standards. The POTW must then determine how best to comply with the adopted effluent limitations. Regional Boards are legally prohibited from dictating how a POTW goes about complying with the adopted effluent limitations. (Wat. Code, § 13360(a).) Considering the legal and regulatory process established for addressing POTW discharges, it is inappropriate for the ERP Conservation Strategy to suggest that advanced treatment is necessary and should be required. We recommend that this language be deleted from the ERP Conservation Strategy.

Second, with respect to the issue of ammonia, CVCWA believes that the science surrounding the role of wastewater discharges in relationship to water quality and the pelagic organism decline (POD) is evolving but remains speculative. For example, there is no scientific consensus regarding the importance of ammonia to food production in the Delta. The effect of ammonium on algal blooms is a complex issue and while elevated ammonium has inhibited nitrate uptake in microcosm studies in lab experiments with samples from Suisun Bay, researchers found that ammonium can be an equally good source of nitrogen for algae in the Sacramento River. Available data demonstrate that algae respond differently to nutrients in various parts of the Delta and the limiting factors are not well understood. Accordingly, the ERP Conservation Strategy needs to contain a balanced discussion of the variability that can occur in different parts of the Delta.

Also, CVCWA cautions against the use of sweeping statements concerning the impact that ammonia and other nutrients from wastewater treatment plants have on Delta species. For example, on **page 55, 3rd paragraph,** the ERP Conservation Strategy states *"... ammonia and other nutrients from sewage outfalls all have a substantial impact on the living organisms in the Delta."* The use of the word "substantial" in this sentence is an overstatement because there is no evidence of substantial ammonia toxicity in the Delta, despite significant evaluation. In another example, on **page 57, 2nd paragraph,** the ERP Conservation Strategy greatly overstates the current understanding of the importance of ammonium to the Delta food web in the following passage:

The ammonium concentration can limit the availability of nitrate, a key nutrient to many phytoplankton species, stifling phytoplankton blooms and substantially limiting food production for zooplankton and other species that fuel the aquatic estuarine food web. Field measurements in enclosure experiments show that when concentrations of ammonium are greater than 4 micro mol/L, the uptake of nitrate by other phytoplankton is inhibited and no blooms are produced (Dugdale, 2007).

The ERP Conservation Strategy must be amended to avoid such blanket, over-generalizations and be limited to findings based on sound-science and data.

Further, CVCWA supports the need for continued research into the interactions between algae and nutrients in the Delta to better understand the uncertainties and to inform management decisions. Importantly, studies need to go beyond determining potential impacts from a single variable (ammonium) or contaminants on primary productivity, and instead need to better understand all limiting factors affecting primary productivity (e.g., salinity, invasive species, turbidity, etc.), their relative contribution, and their interactions. A holistic understanding of factors affecting primary productivity would be much more helpful in forming management decisions than an incomplete understanding.

Third, on page 30, the ERP Conservation Strategy makes an inaccurate, overly broad statement with respect to the City of Stockton's Regional Wastewater Control Facility and its impact on dissolved oxygen levels. Specifically, inputs of ammonia and biochemical oxygen demand from the City of Stockton were contributors to the dissolved oxygen condition in the Deep Water Ship Channel, but did not "create" the entire oxygen demand or a migration barrier, since a number of other factors, including the design of the channel itself, led to the problem. Stockton installed advanced treatment facilities, including nitrification (which removed the bulk of the oxygen demand in the effluent) and filtration, which removed the remaining fraction of the demand. Additionally, the California Department of Water Resources has been managing an aeration project for the channel to improve dissolved oxygen conditions. To avoid confusion, we recommend that the reference to Stockton be revised as follows:

. . . dischargesfrom the Stockton sewage treatment plant historically ~~*created*~~ ***contributed to*** *a biological oxygen demand (BOD) in the upper portion of the Stockton Deepwater Ship Channel and* ~~*created*~~ ***contributed to*** *a migration barrier for fall migrating Chinook salmon.* ~~*This BOD problem has been substantially abated by converting to tertiary treatment in the Stockton plant*~~. ***Three aeneral causes of low dissolved oxvaen in the Stockton Deepwater Ship Channel are the aeometrv of the channel, reduced flows, and BOD loads. The Central Valley Reaional Water Qualitv Control Board and stakeholders are currently indentifvina possible accountina procedures for TMDL implementation for estimatina the effects of San Joaquin River and Deep Water Ship Channel flows, upstream alaae concentrations. and Stockton Reaional Wastewater Control***

Facility effluent concentrations on the combined inflow of BOD in the channel and the resulting DO concentrations in the channel.'

Fourth, the ERP Conservation strategy includes a number of statements with respect to toxic contaminants that fail to recognize the extensive water quality regulatory processes in place that are designed to address toxic contaminants. For example, the ERP Conservation Strategy states, "ERPP Goal 6, Objective 1 is to reduce the loadings and concentrations of toxic contaminants in all aquatic environments in the Bay-Delta estuary and watershed to levels that do not adversely affect aquatic organisms, wildlife and human health." The need for load reductions is addressed by the Regional Boards through water quality programs implemented under the Clean Water Act and Water Code. The establishment of water quality objectives, NPDES permit limits, 303(d) listings, and total maximum daily loads (TMDLs) are all steps taken to address those cases where objectives are not achieved, and beneficial uses are impacted.

Further, the ERP Conservation Strategy makes other broad, and misleading statements with respect to POTWs and their impact on Delta water quality. For example, on page 106, 3rd paragraph, the following sentence implies the existence of a toxicity problem, but fails to support this implication.

> *Water quality. The Sacramento River Valley receives a large variety of potentially toxic chemicals, including but not limited to pesticides from agricultural and urban runoff, contaminants discharged from wastewater treatment plants. . . .*

Specifically, as written, this sentence is misleading, in that it implies a significant problem with many contaminants in the Sacramento River and many problem contaminants associated with wastewater discharges. In fact, the list of contaminant problems in the Sacramento River and its tributaries is quite small. As noted in the following paragraph on page 106, the most prevalent 303(d) listings are for organophosphate pesticides and mercury. Urban uses of organophosphate pesticides has been phased out and these pesticides are no longer a significant problem in the watershed, or at least from wastewater treatment plant discharges. Mercury is listed and TMDLs have been developed based on concern for its accumulation in fish tissue and potential effect on human health and wildlife; mercury is not listed due to its effect on aquatic species. Ambient water quality monitoring in the Sacramento River has shown a high degree of compliance with water quality objectives over the past decade or more, including compliance with objectives for a long list of toxic pollutants covered by the California Toxics Rule. Accordingly, the statement in the ERP Conservation Strategy is incorrect in that it implies that POTWs are discharging significant levels of toxic contaminants. Such a statement, or implication, is false and must be corrected.

[1] "Possible SJR DO TMDL Implementation Procedures," prepared by ICF International for California Department of Water Resources, December 2010, http://bavdeltaoffice.water.ca.gov/sdb/af/docs/Appendix%2OA.pdf.

CVCWA is also concerned with the statement on page 110, 2nd paragraph, with respect to contaminant loadings. ("Contaminant loading from the Sacramento River Valley watershed has a significant effect on the overall Bay-Delta ecosystem. Controlling these contaminants at their sources must be an important component of ecosystem restoration.") These statements are inaccurate and highly misleading. The issue that drives ecosystem impacts is not loading (which is significantly affected by flow volumes); it is *ambient concentrations* that result from an aggregation of all loadings. Ambient concentrations of most contaminants in the Delta are not problematic, as evidenced by the relative few 303(d) listings for contaminants that are associated with ongoing sources (as opposed to legacy sources). Apart from mercury (a legacy pollutant), inputs from the Sacramento River to the Delta have not been shown to have a significant effect on ecosystem condition. In general, the need for controls should be established based on a linkage of loadings to observed problems at current ambient levels, which is done through the TMDL process required by the Clean Water Act. It is inappropriate for the ERP Conservation Strategy to suggest that such controls are necessary outside of the TMDL process.

Fifth, CVCWA is concerned with the statement on page 61, 3rd paragraph, which suggests that the presence of metals in general, and copper and nickel specifically, are primarily from urban runoff and wastewater treatment plants. With respect to wastewater treatment plants, the statement must be deleted because it is inaccurate. This statement is made without reference to specific locations, ambient data, or an evaluation of compliance with water quality objectives (e.g., California Toxics Rule (CTR) criteria) for copper and nickel. In fact, the CTR criteria are based on dissolved copper and dissolved nickel. Ambient monitoring data in the Sacramento and San Joaquin Rivers and the Delta has not demonstrated that copper or nickel exceed the CTR criteria. As a result, the Delta, and Sacramento and San Joaquin Rivers are not 303(d) listed for copper or nickel. In San Francisco Bay, the entire Bay has been delisted for dissolved copper because current ambient levels are well below CTR standards.

Finally, CVCWA must express concerns with the statements made on page 133, 4th paragraph, and page 252, 5th paragraph, with respect to growth and POTW discharges complying with water quality standards. The statement is incorrect and must be deleted. A recent study performed by West Yost Associates (2011) for the Central Valley Drinking Water Policy work group has demonstrated that wastewater loadings of a number of parameters (organic carbon, ammonia, nutrients) will not increase over historical levels as a result of population growth over the next 20 years, due to current NPDES permit requirements. Also, municipal wastewater treatment plants in the Central Valley exhibit a high level of compliance with stringent permit requirements and effluent limits that are set to protect beneficial uses. Accordingly, POTWs are not generally causing or contributing to violations of applicable water quality standards.

Again, we appreciate the opportunity to provide comments. Should you have any questions with respect to our comments, or impacts to Delta water quality from POTWs generally, please contact me at (530) 268-1338.

Sincerely,

Debbie Webster

Debbie Webster
Executive Officer