**Central Valley Regional Water Quality Control Board**
**Board Meeting – 7/8 August 2014**

# Response to Written Comments for Sacramento Regional County Sanitation District Sacramento Regional Wastewater Treatment Plant Amendment of NPDES Permit for Interim Ammonia Limits

At a public hearing scheduled for 7/8 August 2014, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) will consider adoption of an amendment to Waste Discharge Requirements Order R5-2010-0114-02 (NPDES permit No. CA0077682) for the Sacramento Regional Wastewater Treatment Plant for interim limitations for ammonia. A tentative order amending the NPDES permit was issued on 27 May 2014. This document contains Central Valley Water Board staff responses to written comments received from interested persons.

Written comments on the proposed Order were required to be received by the Central Valley Water Board by 30 June 2014 in order to receive full consideration. Comments were received by the United States Fish and Wildlife Service (USFWS) and the United States Environmental Protection Agency (USEPA). Written comments are summarized below, followed by Central Valley Water Board staff responses.

## United States Fish and Wildlife Service (USFWS)

**USFWS Comment #1:** USFWS expressed concerns about possible adverse impacts to federally listed species, specifically delta smelt (*Hypomesus transpacificus*). USFWS requested and was provided additional ammonia information regarding its concerns of possible adverse water quality conditions in the Sacramento River below Freeport, downstream of the outfall diffuser. USFWS staff appreciated Central Valley Water Board staff for being responsive to its concerns.

a) USFWS requests continued engagement by Central Valley Water Board staff to address its concerns, and should modeling show that ammonia concentrations in the river could closely approach or exceed established toxicological standards, it requests the Central Valley Water Board to work with the USFWS to address the ammonia levels.

   **Response:** Central Valley Water Board staff understands USFWS concerns and is appreciative of USFWS staff's assistance. Central Valley Water Board staff will continue to work with USFWS regarding this discharge, as needed.

b) USFWS requests additional water quality monitoring including ammonia, pH and temperature to document the dynamics of the ammonia plume downstream of the discharge. USFWS staff is available to engage in a discussion of the objectives and design of such enhanced monitoring.

   **Response:** Central Valley Water Board staff is available to discuss possible monitoring changes. However, we do not believe additional monitoring would provide the information USFWS is seeking. The current monitoring and reporting program requires the SRCSD to monitor for ammonia, pH and temperature daily in the effluent and weekly at four locations upstream and downstream of the discharge. This monitoring adequately characterizes the discharge and receiving water. The area of concern expressed by USFWS is the immediate discharge plume downstream of the outfall diffuser, which is the area where ammonia concentrations may exceed water quality criteria. Ammonia concentrations further

downstream, i.e., fully mixed effluent/receiving water condition, are unchanged with the proposed changes to the interim ammonia effluent limits, because the total mass loading of ammonia has not been increased, only the concentrations are increasing. The total mass of ammonia discharge impacts ammonia concentrations at far-field locations.

The SRCSD developed a dynamic model to estimate mixing and constituent concentrations within the river from the outfall diffuser to 700 feet downstream of the discharge. The model was calibrated and validated using several dye studies. The model was reviewed by modeling experts provided by USEPA and it was determined that the model accurately estimates the mixing and constituent concentrations in the plume. Modeling of the effluent plume is superior to water quality monitoring, because reasonable worst-case conditions for pH, temperature, ammonia, river flows, etc. can be used in the modeling. These conditions rarely occur, so monitoring is typically not conducted at the worst-case conditions. In addition, it can be difficult to monitor the plume, because the effluent plume remains close to the bottom of the river for several hundred feet downstream of the diffuser and constituent concentrations vary throughout the plume. Therefore, samples may not be collected at locations where concentrations are the greatest.

The modeling of the discharge provided by the SRCSD on 20 June 2014 provides the information the USFWS is seeking. The modeling was conducted using the proposed ammonia interim effluent limitations and demonstrates that ammonia concentrations increase only slightly from discharge at the existing interim limits (under worst-case conditions).

## United States Environmental Protection Agency (USEPA)

**USEPA Comment #1**. USEPA supports the proposed amendments to the permit.

**Response:** Comment noted.