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March 26, 2008

Subject: Transmittal of Localized Mercury Bioaccumulation Study – Final Report

Dear Colleague:

The Sacramento Regional County Sanitation District is pleased to submit this final report on our Localized Mercury Bioaccumulation Study. The District operates the Sacramento Regional Wastewater Treatment Plant (SRWTP), which treats wastewater from the Sacramento metropolitan area and during the dry season, discharges approximately 130 million gallons per day of treated wastewater into the Sacramento River. We have been investigating the potential for using offsets as a means of complying with future permit requirements to cap or lower mercury loads. But before proceeding with an offset project, we have evaluated whether our current discharges result in an unacceptable localized impact to people and wildlife who consume fish.

The field work for this study was conducted in the dry season of a wet year (July – November 2006) in a five-mile reach surrounding the SRWTP’s outfall in the lower Sacramento River at Freeport. Mercury and related parameters in water and sediment were monitored monthly as grab samples. Mercury in several thousand resident and suspended clams was monitored concurrently. Mercury in three small “biosentinel” fish was also monitored in November 2006.

Key findings of the study include the following:

- Mercury in suspended clams was about 11% higher downstream of the outfall. Mercury in resident clams exhibited no change outside of the mixing zone.
- Mercury in short-lived biosentinel fish (silversides, juvenile bass) increased 9-13% downstream of the outfall, but longer-living biosentinel fish (prickly sculpin) decreased by 9%.
- SRWTP’s discharge during the field work represented about 1.5% of the flow and about 7% of the methylmercury load in the lower Sacramento River.

The conclusion from this study is that the SRWTP’s effluent contributes about the same amount of mercury to bioaccumulation as expected from effluent load estimates. Furthermore, methylmercury in aquatic organisms near the SRWTP’s outfall is not outstanding compared to other areas of the Sacramento River Watershed and the Delta. While there is a measurable increase in mercury bioaccumulation associated with the SRWTP outfall, the evidence of localized environmental risk is not so clear and convincing that a reasonable decision maker would conclude that some action must be taken locally rather than somewhere else in the watershed. Therefore, SRCSD believes this study supports pursuing a pilot offset project. The full report on this study is available at www.bemercuryfree.net.

Sincerely,

Mary Snyder
District Engineer