

## **Update for Delta Mercury Control Program and Total Maximum Daily Load (TMDL) June 12, 2017**

Below are a series of brief updates related to the Delta Mercury Control Program (aka Delta Methylmercury TMDL). Links within the updates provide additional information.

### **Status of Phase 1 Studies**

The Delta Mercury Control Program Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control methylmercury in the Delta. Currently, responsible entities are implementing methylmercury control studies to assess methods of limiting methylmercury entering Delta waterways. The studies encompass a variety of source types, including municipal wastewater treatment plants, urban and industrial stormwater discharges, dredging operations, tidal wetlands, open water habitats, and seasonal wetlands.

Progress reports detailing the current status of these studies have been submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) and are posted on the program website [here](#). The progress reports were discussed with the Delta Mercury Control Program Technical Advisory Committee (TAC) Chair and three reports were submitted for TAC review. These reports are for the following projects that are close to completion and/or have proposals for work plan modifications- Central Valley Clean Water Association (municipal wastewater treatment facilities group), Sacramento Stormwater Quality Partnership (urban storm water group), and Deuel Vocational Institution (wastewater treatment facility). The reports were sent to the TAC in May 2017 and comments from this review are expected in June 2017.

All other methylmercury study projects are progressing well and are anticipated to meet their respective deadlines. This includes studies from the City of Stockton/County of San Joaquin group (urban stormwater), City of Sacramento (combined municipal wastewater and storm water system), the Contra Costa Clean Water Program (urban storm water), and the Port of Stockton (industrial storm water). Final Methylmercury Control Study Reports from these projects are expected to be submitted to the Board by October 2018.

The Department of Water Resources (DWR) is conducting a tidal wetlands methylmercury study and an open water habitat study in conjunction with the Open Water Workgroup. Reports from these studies are due in December 2019. The tidal wetlands study is assessing methylmercury concentrations and loads in existing tidal wetlands to inform planning for future tidal wetland restorations. The open water habitat study combines field data, laboratory work, and modeling in the Delta and Yolo Bypass regions to evaluate the potential effects of operational changes on mercury cycling and methylmercury in Delta channels.

Starting in 2018 staff will be reviewing available information in preparation for the Phase 1 Delta Mercury Control Program review. The results of these control studies will inform the program review as well as inform implementation of potential methylmercury controls for Phase 2. Phase 2 will commence

after the control program review, Board reconsideration of the TMDL, and an amendment to the Sacramento River and San Joaquin River [Basin Plan](#) (Basin Plan). Phase 2 could include implementing methylmercury and mercury control programs, compliance monitoring, and upstream mercury/methylmercury control programs.

#### Cosumnes River Preserve Study

In May 2017 CVRWQCB staff reviewed a U.S. Geological Survey and Bureau of Land Management draft report for a study on methylmercury management in seasonal wetlands in the Cosumnes River Preserve. The study analyzed the effects of flow-through and fill/maintain/drain wetland management practices, as well as shallow and deep water cell configurations, in the wetlands. This study was funded by a 2013 Clean Water Act 319(h) Implementation grant and a California Department of Fish and Wildlife Ecosystem Restoration Program grant. Other entities involved were the U.S. Environmental Protection Agency, California Department of Fish and Game, and Cosumnes River Preserve. A final report of this study is expected in June 2017. CVRWQCB will review these results along with previously completed studies for nonpoint sources of agriculture and wetlands as part of the Phase 1 Delta Mercury Control Program review.

#### Dredging Operations

The U.S. Army Corp of Engineers (USACE) completed a study in November 2014 assessing the potential increase of methylmercury concentrations in the Sacramento and Stockton Deep Water Ship Channels related to maintenance dredging operations. A final report was submitted in August 2015 detailing this study. The results show that no increases in methylmercury concentrations were observed in the rivers from maintenance dredging operations.

#### Cache Creek Settling Basin

Additionally, DWR submitted a Final Mercury Control Studies Report in November 2015 regarding the Cache Creek Settling Basin (CCSB). This report is in response to the Delta Mercury Control Program requirement that agencies responsible for managing the CCSB evaluate the feasibility of reducing mercury loads leaving the Basin. The November 2015 report evaluates the trapping efficiency of the CCSB, evaluates potential alternatives for mercury reduction from the Basin, and discusses the long term environmental benefits and costs of sustaining the Basin's mercury trapping abilities indefinitely. A DWR report is expected to be submitted to CVRWQCB in October 2017 regarding an improvement plan for the CCSB.

#### **Delta Mercury Exposure Reduction Program**

In conjunction with the mercury and methylmercury load reduction goals of the TMDL, the Delta Mercury Control Program includes a Mercury Exposure Reduction Program (MERP). The purpose of the MERP is to protect people who eat Delta fish by reducing their methylmercury exposure and its potential health risks.

CVRWQCB staff have been working closely with the Delta Conservancy, California Department of Public Health (CDPH), and Office of Environmental Health Hazard Assessment (OEHHA) in developing and posting fish consumption advisory signs throughout the Delta, translating and providing outreach and education materials in nine languages, and providing grants to community-based organizations to promote safe Delta fish consumption.

On 8 May 2017, the Sierra Fund presented the “Sierra Crest Leadership Award” to the Delta MERP, recognizing the program’s work and collaborative effort with community groups to reduce exposure to mercury through outreach and education.

On 17 May 2017, the MERP stakeholder meeting was held at the Cosumnes River Preserve. This year’s MERP grantees gave project progress reports detailing successes in their respective communities and gave informative feedback to OEHHA regarding new consumption advisory materials.

Further information on the MERP can be found on the program [website](#).

### **Delta Regional Monitoring Program**

The Delta Regional Monitoring Program (RMP) is a stakeholder-directed project formed to develop water quality data necessary for improving our understanding of Delta water quality issues. The goal of this effort is to better coordinate and design current and future monitoring activities in and around the Delta to create a cost effective approach for providing critically needed water quality information to better inform policy and regulatory decisions of the Central Valley Regional Water Quality Control Board and other Federal, State and local agencies and organizations, including the Delta Mercury Control Program.

In 2016 the Delta RMP initiated a methylmercury monitoring program for water and fish to address the highest priority information needs related to the Phase 1 Delta Mercury Control Program review. Water monitoring on a near-monthly basis will solidify the linkage analysis in the TMDL and provide essential input data for development of a mercury cycling model. Annual monitoring of sport fish will establish baseline concentrations and inter-annual variation in support of monitoring of long-term trends as a critical performance measure for the TMDL. Concentrations of methylmercury and mercury in sediment to use for DWR’s mercury models have been identified as another significant data need.

Largemouth bass were collected in September 2016 from six locations distributed across the Delta that coincide with the TMDL subareas and water collection locations. Additionally, quarterly monitoring of sediment will commence starting 1 July 2017.

Further information can be found on the Delta RMP [website](#).

### **Mercury Offsets Program**

Staff is beginning to develop a work plan for a mercury (inorganic and/or methyl) offsets program. The Basin Plan requires the Board to consider such a program by 2020. The intent of a mercury offset program is to optimize limited resources to maximize environmental benefits. The overall objectives for

the offset program are to (1) provide more flexibility than the current regulatory system provides to improve the environment while meeting regulatory requirements (i.e., load and waste load allocations) through effective and feasible mercury/methylmercury load reduction projects and (2) promote watershed-based initiatives that encourage earlier and larger mercury load reductions to the Delta than would otherwise occur.

The program and associated projects will be based on [guiding principles](#) (see pages 13-14) that were developed in conjunction with stakeholders when the TMDL was adopted. Currently, staff is developing stakeholder outreach materials to determine the potential geographic extent of any offset program (e.g., Delta only, Central Valley regionwide, specific watersheds) and ideas for what elements should be included in the program. The offset work plan will include some initial meeting with stakeholders this year.

### **Upstream Mercury Control Programs**

#### **Statewide Mercury Control Program for Reservoirs**

A Statewide Mercury Control Program for Reservoirs is currently being developed for mercury-impaired reservoirs throughout California to reduce methylmercury levels in reservoir fish. Depending on implementation actions taken, reductions in mercury and methylmercury levels within the reservoir may result in reduced mercury/methylmercury discharges to downstream tributaries.

The Statewide Mercury Control Program for Reservoirs draft Staff Report and proposed regulatory language is in the process of external scientific peer review, with the review expected to be completed by late summer. The draft documents will be posted on the program [website](#) after peer review. Staff plans to hold meetings with reservoir owners and operators to continue discussions about reservoir water chemistry and fisheries management pilot tests. After the scientific peer review comments are received and addressed, the State Water Board will release a revised staff report and proposed regulatory language for formal public review in 2018.

Additionally, in preparation for upcoming stakeholder meetings with the reservoir owners and operators, the State Water Board will be administering a questionnaire to reservoir owners and operators to inquire about current fisheries and water chemistry management practices and to gather feedback on potential pilot test options. The questionnaire is being sent to the owner/operators of about 130 reservoirs throughout the state.

#### **Central Valley Mercury Control Program for Rivers**

The CVRWQCB is just beginning to develop mercury control programs for rivers in the Central Valley. This will assist in reducing mercury and methylmercury impacts to the Delta from associated tributaries. More information about these new TMDLs will be provided in the future.

### **New Mercury Beneficial Uses and Water Quality Objectives**

On 2 May 2017 the State Water Resources Control Board adopted Resolution No. 2017-0027, Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California - Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions. This established new statewide beneficial uses and mercury water quality objectives for Tribal fishing and cultural activities and subsistence fishing. This resolution additionally established objectives for sport fish, prey fish, a prey fish objective to protect the California Least Tern, and an implementation plan to achieve the objectives. Further information can be found in the [Staff Report](#) and the associated [Appendix A](#).

### **Contact**

Please contact Jennifer Fuller in the Mercury TMDL Unit at the Central Valley Regional Water Quality Control Board with any questions, at [Jennifer.Fuller@Waterboards.ca.gov](mailto:Jennifer.Fuller@Waterboards.ca.gov) or 916-464-4646.