

# Mercury Open Water Final Report for Compliance with the Delta Mercury Control Program

## Chapter 2. Non-DWR Open Water Workgroup Activities

**Submitted by the Open Water Workgroup**

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**US Army Corps  
of Engineers.**



— BUREAU OF —  
RECLAMATION



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## Acronyms and Abbreviations

CDPH	California Department of Public Health
CSLC	California State Lands Commission
CVFPB	Central Valley Flood Protection Board
CVRWQCB	Central Valley Regional Water Quality Control Board
DMCP	Delta Mercury Control Program
DWR	California Department of Water Resources
Hg	mercury
MeHg	methylmercury
MERP	Mercury Exposure Reduction Program
Reclamation	U.S. Bureau of Reclamation
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

## Introduction

This chapter focuses on activities undertaken by non-California Department of Water Resources (DWR) Open Water Workgroup members who, to the extent allowable by their regulatory authority, were required to direct project applicants, grantees, and loan recipients to apply to or consult with the Central Valley Regional Water Quality Control Board (CVRWQCB) to ensure full compliance with the Delta Mercury Control Program (DMCP). In addition to DWR, the Open Water Workgroup consists of the California State Lands Commission (CSLC), the Central Valley Flood Protection Board (CVFPB), the U.S. Army Corps of Engineers (USACE) and the U.S. Bureau of Reclamation (Reclamation).

## California State Lands Commission

This section summarizes activities undertaken by the CSLC in compliance with the DMCP. In the workplan, CSLC agreed that as new leases are issued or come up for renewal, they will be examined to determine what modifications are necessary to address the mobilization and transport of sediment-bound mercury. The CSLC leases sovereign land for various purposes that are consistent with the Public Trust Doctrine. Some of these leases may include activities (e.g., dredging, riprap installation, spur dike removal) that contribute to the disturbance of streambed sediments.

## Key Findings

- Leases within the DMCP area were identified and categorized. Very few leases were identified where activities could substantially contribute to the disturbance of streambed sediments.
- Environmental documents for proposed projects located within the DMCP area were reviewed and comments submitted that included a notice of potential mercury (Hg) or methylmercury (MeHg) contamination.
- Leases potentially applicable under the Mercury Exposure Reduction Program (MERP) (docks, marinas, etc.) were pulled into a list and shared with the California Department of Public Health (CDPH) to aid in the posting of advisory signs for the MERP. Seven signs were posted throughout the DMCP area from 2017 through 2018.

## Participation Overview

The CSLC leases sovereign land for various purposes that are consistent with the Public Trust Doctrine. CSLC staff reviewed all current leases within the DMCP area and identified leases that had (or have) the potential to result in substantial sediment disturbance or release within the DMCP area. These leases could include activities such as dredging, riprap installation, or spur dike removal. Only three active leases met that criteria. Upon review of the leases, CSLC staff found that existing permits from other agencies, including USACE and the CVRWQCB, provided substantial protection during sediment-disturbing activities. To more effectively modify future leases to address the mobilization and transport of sediment-bound Hg, the CSLC has examined, and will continue to examine, current effective methodologies to strengthen existing best management practices or develop new control measures aimed at reducing the concentration of Hg and/or MeHg released into the Delta as the result of sediment disturbance.

From 2014 through 2018, CSLC staff also reviewed environmental documents provided by the State Clearinghouse for projects that have the potential to result in sediment disturbance or release within the

Delta or adjacent areas. CSLC staff incorporated specific comments addressing the potential for Hg and MeHg release to promote agency and public awareness. Examples of these projects include:

- Smith Canal Gate Project, San Joaquin County (SCH #2014062079).
- Delta Levee Investment Strategy, Sacramento and San Joaquin counties (SCH #2015052070).
- North Sacramento Streams, Sacramento River East Levee, and Related Flood Improvements Project, Sacramento, Yolo, Sutter and Solano counties (SCH #2014052038).
- San Joaquin River Parkway Sycamore Island Pond Isolation Project, Fresno and Madera counties (SCH #2015011041).
- Emergency Drought Barriers Project, Yolo, Sacramento, and Contra Costa counties (SCH #2015012048).
- Delta Emergency Facilities Improvement Project Refinements, San Joaquin and Solano counties (SCH #2014112056).
- I Street Bridge Replacement Project, Sacramento and Yolo counties (SCH #2014092069).
- Butte Slough Outfall Gates Rehabilitation Project, Sutter and Colusa counties (SCH #2014082018).
- Sherman Island “Little Baja and Manzo Ranch” Fish Release Sites Project, Sacramento County (SCH #2014052035).
- Decker Island Electrical Crossing Project, Sacramento and Solano counties (SCH #2014032039).
- Raley’s Dock Replacement and Rice Mill Pier Rehabilitation Project, Yolo County (SCH #2014022054).
- Woodward Island Bridge Project (ferry ramp replacement), San Joaquin County (SCH #2016012065).
- San Francisco Bay to Stockton Navigation Improvement Study, San Joaquin County (SCH #2016032010).
- Twin Cities Road over Snodgrass Slough Bridge Replacement, Sacramento County (SCH #2016062064).
- Altamont Corridor Express Extension Lathrop to Ceres/Merced Project, San Joaquin, Stanislaus, and Merced counties (SCH #2018012014).
- Northwest Levee Improvements and Stone Road Seepage Reduction Project, Sacramento County (SCH #2018072062).

In addition, CSLC staff worked with CDPH to aid in the posting of fish consumption advisory signs throughout the Delta to promote safe Delta-fish consumption (Figure 2-1). The advisory signs, prepared by Open Water Workgroup partner DWR, were made available to CSLC staff in January 2017.

**Figure 2-1 Example of Fish Consumption Advisory Posted at California State Lands Commission Lease Locations**

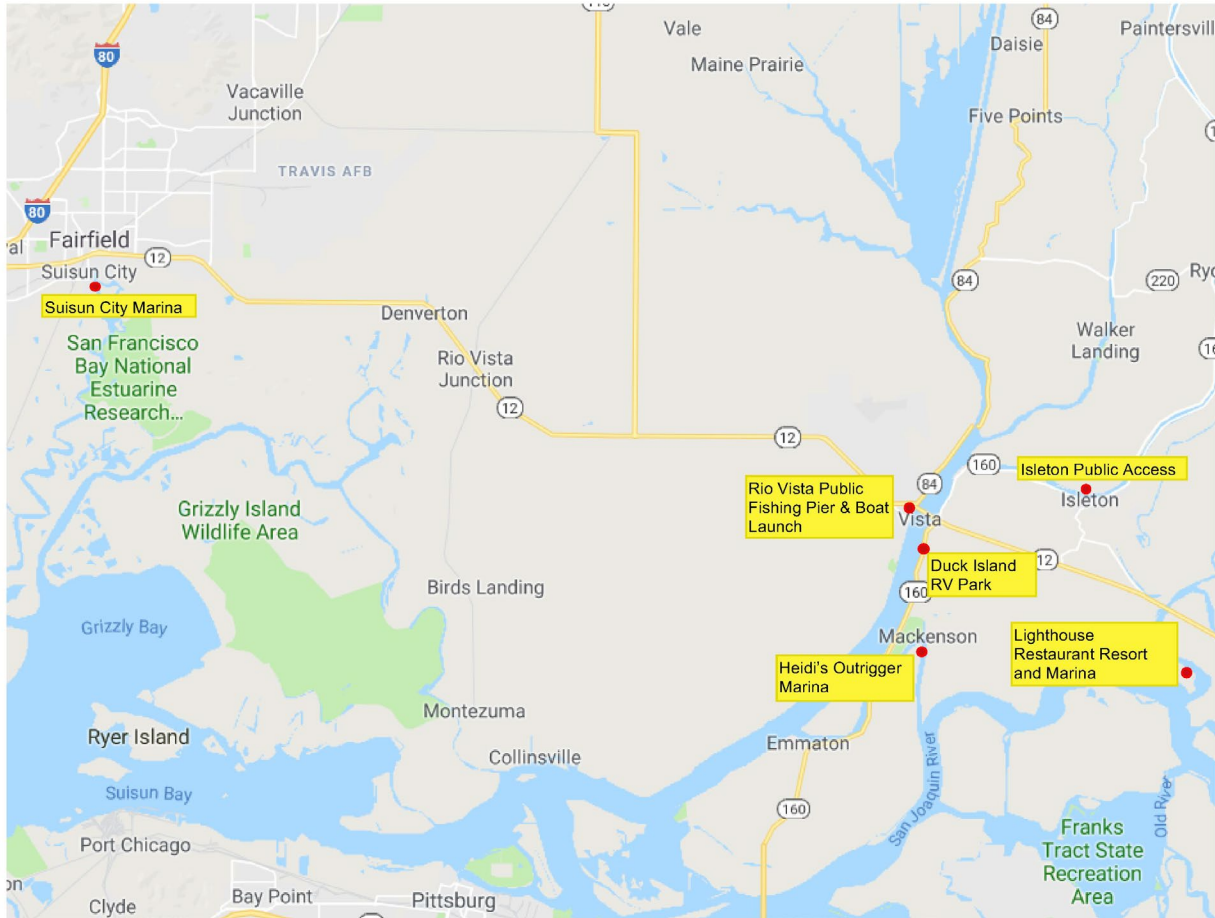


In 2012, CSLC staff identified approximately 54 leases that could be candidates for the posting of advisory signs. Of these 54 leases, a 2017 review identified 19 priority locations that were found to be potentially viable for the first year of the posting effort. CSLC staff compiled information on those lease locations into a list and shared the information with CDPH, who incorporated the information into their posting database. On February 14, 2017, letters were sent to these locations requesting permission to post an advisory sign onsite. Although the goal was to post 19 signs, 12 planned locations either were not viable, the land owner did not approve the sign posting, or the signs were posted by other agencies because of miscommunication with CDPH. As listed in Table 2-1, seven signs have been posted to date. Figure 2-2 provides a map of the locations. Photographs are provided in Figures 2-3 through 2-7.

**Table 2-1 Facilities with Leases held by the California State Lands Commission with Posted Fish Consumption Advisories**

Facility	Address/ Global Positioning System Coordinates
Lighthouse Restaurant Resort and Marina	151 Brannan Island Road in Sacramento 38°06'21.1"N, 121°34'16.6"W
Isleton Public Access	101 Second Street in Isleton
Heidi's Outrigger Marina and Saloon	17641 Sherman Island East Levee Road in Rio Vista 38°06'50.2"N, 121°41'02.2"W
Rio Vista Boat Launch	Montezuma Street near Front Street in Rio Vista 38° 9'16.54"N, 121°41'24.87"W
Rio Vista Fishing Pier	Front Street near State Route 12 in Rio Vista 38° 9'35.78"N, 121°41'12.44"W
Suisun City Marina	800 Kellogg Street in Suisun City
Duck Island RV Park	16814 State Route 160 in Rio Vista 38° 8'35.68"N, 121°41'3.65"W

**Figure 2-2** Locations of Posted Fish Consumption Warning Signs on Properties Leased by the California State Lands Commission



**Figure 2-3** Photo and Location of Lighthouse Restaurant Resort and Marina





**Figure 2-4 Photo and Location of Heidi's Outrigger Marina and Saloon**



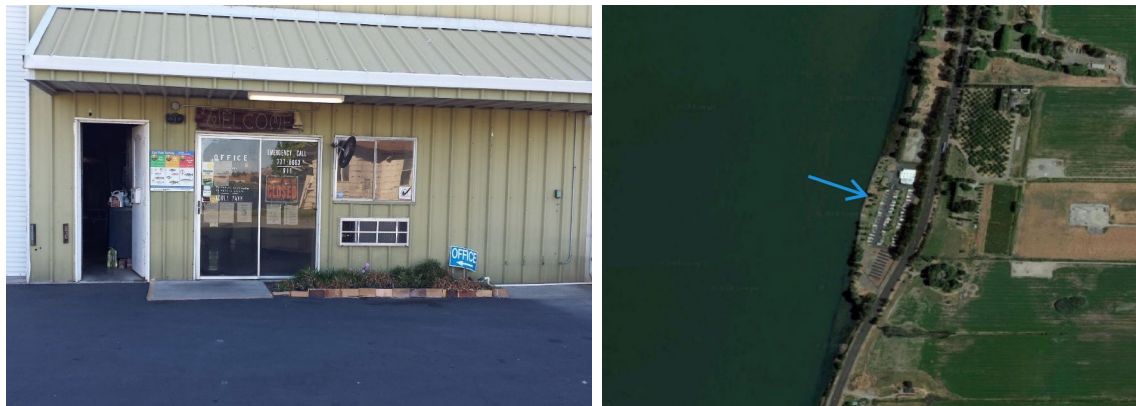
**Figure 2-5 Photo and Location of Rio Vista Boat Launch**



**Figure 2-6 Photo and Location of Rio Vista Fishing Pier**



**Figure 2-7 Photo and Location of Duck Island RV Park**



### **Future Participation Efforts**

CSLC staff will continue to look for ways to further emphasize the need to reduce sediment disturbance and subsequent MeHg release in the Delta. Future activities may include:

- Additional sign posting under the guidance of the CDPH.
- Inclusion of advisory pamphlets with new and renewed lease documents.
- Mass mailout of advisory pamphlets to leases within the DMCP area.
- Internal modification of procedures to automatically identify new leases within the DMCP area.

In addition, CSLC staff suggest increased communication between CDPH and sign-posting agencies to ensure that the agency assigned to post a sign to a particular location is able to fulfill that task.

### **Central Valley Flood Protection Board**

The Central Valley Flood Protection Board (Board) is participating in the Delta Open Water Workgroup (workgroup) as a responsible entity because of its property, easements, and regulatory authority for the purpose of regulating flood control features. As stated in the workplan, the Board may act as a trustee agency under CEQA in reviewing projects that may mobilize and transport sediment-bound mercury.

The Board, as the non-federal sponsor of the State-federal flood control system in California's Central Valley issues encroachment permits for work that meets certain construction standards and will not be injurious to, or interfere with, the successful execution, function, or operation of the flood control system. The Board will examine each permit application to determine if project construction may result in the mobilization and transport of sediment and if project modifications are necessary pursuant to California Code of Regulations, Title 23, Sections 115, 116, and 121. In addition, a condition will be included in each permit within the DMCP area requiring the permittee to obtain or provide a waiver for the Clean Water Act Section 401 Water Quality Certification prior to commencement of project construction. It is anticipated that these requirements will ensure that any encroachment permits issued by the Board will be in compliance with the DMCP.

## **U.S. Army Corps of Engineers**

In addition to working with the Delta Open Water Workgroup, USACE has been advancing mercury research in the Delta on several fronts. The paragraphs below provide a brief synopsis of the additional projects, with Hg components, occurring within the boundaries of the DMCP.

### **Lower Cache Creek Flood Control Project**

USACE is resuming completion of the feasibility study for the Lower Cache Creek Project. The project proposes to provide flood protection for the City of Woodland, the local sponsor. USACE will finalize the feasibility study, determine the tentatively selected plan, complete the combined environmental impact statement/environmental impact report document, and produce the Chief of Engineers Report.

Compliance with multiple total maximum daily loads for total Hg and MeHg will be coordinated between the local sponsor, DWR, and USACE. The Cache Creek system, including Clear Lake, has been historically impacted by active and abandoned gold rush era mercury mines, and is also impacted by the Sulphur Bank Mercury Mine Superfund site.

### **Delta Study**

The USACE Chief of Engineers Report summarizing the recommended alternative and formally requesting funding has been received and sent to Congress. If funding is authorized, a Phase I environmental assessment and current condition sampling will be conducted to assist with placement design for use of dredged material for habitat restoration of a submerged Delta island called Big Break, near Antioch, California. An Hg control plan will also be produced to characterize current Hg and MeHg production as well as provide monitoring during and after restoration.

## **U.S. Bureau of Reclamation**

Like USACE, Reclamation is participating in the Delta Open Water Workgroup in accordance with its authorizations to provide technical support when requested or necessary for the DMCP process. In addition to open water DMCP efforts, Reclamation, in collaboration with the U. S. Geological Survey (USGS), Bureau of Land Management, and Lawrence Berkeley National Laboratory, is funding and working on a three-year research project to develop a physically based watershed-scale model to simulate the effects of fire on the mobilization and transport of Hg and MeHg. The research partners selected the Cache Creek Watershed to develop and apply the model because previous USGS studies had collected hydrologic, mercury, sediment, and water-quality data necessary for such a model development. The hydrologic component of the model has been already calibrated for both pre- and post-fire conditions. Calibration of the sediment transport and completion of the Hg/MeHg fate and transport modules were completed in 2019. Reclamation is considering an application of the model in the Lake Berryessa watershed.



