Delta Mercury Control Program Phase 1 Review Staff Report for Scientific Peer Review

Staff Workshop
12 September 2024

This presentation will be recorded

CALIFORNIA Water Boards

Central Valley – R5

STATE OF CALIFORNIA · CENTRAL VALLEY REGION · REGIONAL WATER QUALITY CONTROL BOARD

Meeting Logistics

- Email RB5S-MercuryComments@waterboards.ca.gov for connectivity issues
- This presentation will be recorded
  - Explicit consent required for recorded meetings. MS Teams will require participants' agreement to be transcribed when transcription is started. Participants can agree or disagree to be transcribed. If participants do not consent, they cannot unmute, turn on their camera, or share content during the meeting.
- The chat has been disabled for this meeting. Please Raise Hand to ask questions

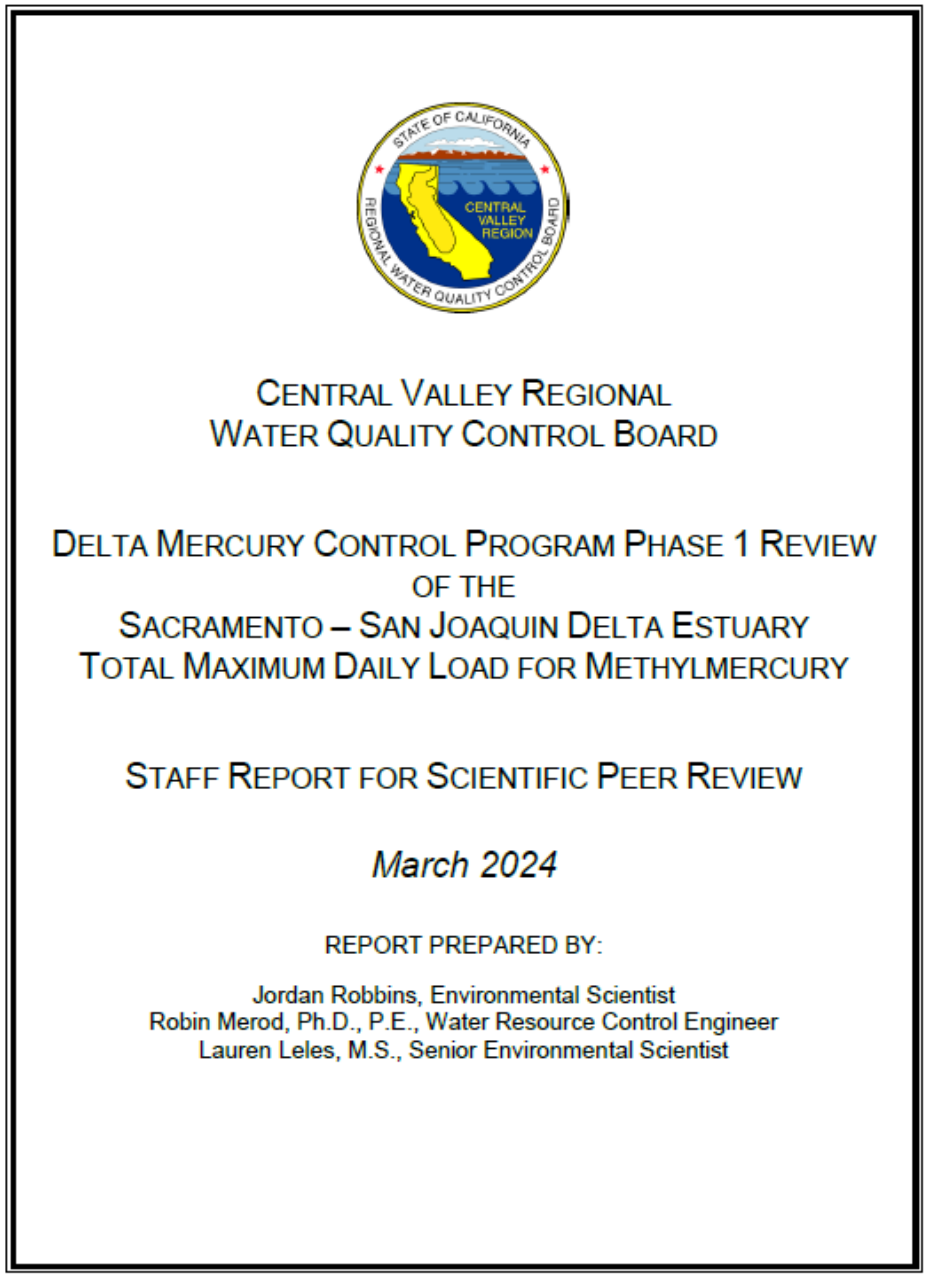
- Please announce your name, affiliation, and who you are representing before asking your question
- If you are calling in: press *9 to raise your hand, wait for facilitator to call on you, and *6 to unmute

Agenda

- Meeting Purpose
- Overview of the Delta Mercury Control Program
- Overview of modifications proposed in the *Delta Mercury Control Program Phase 1 Review of the Sacramento-San Joaquin Delta Estuary Total Maximum Daily Load for Methylmercury Staff Report for Scientific Peer Review*
- Discussion

Meeting Purpose

- Delta Mercury Control Program (DMCP) requires a Phase 1 Review with specific components to be reviewed
- Scientific components were reviewed by Board Staff and submitted for External Scientific Peer Review
- Staff report describes possible modifications for Board's consideration
- Additional options for Board's consideration will be developed with interested groups



CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD

DELTA MERCURY CONTROL PROGRAM PHASE 1 REVIEW
OF THE
SACRAMENTO – SAN JOAQUIN DELTA ESTUARY
TOTAL MAXIMUM DAILY LOAD FOR METHYLMERCURY

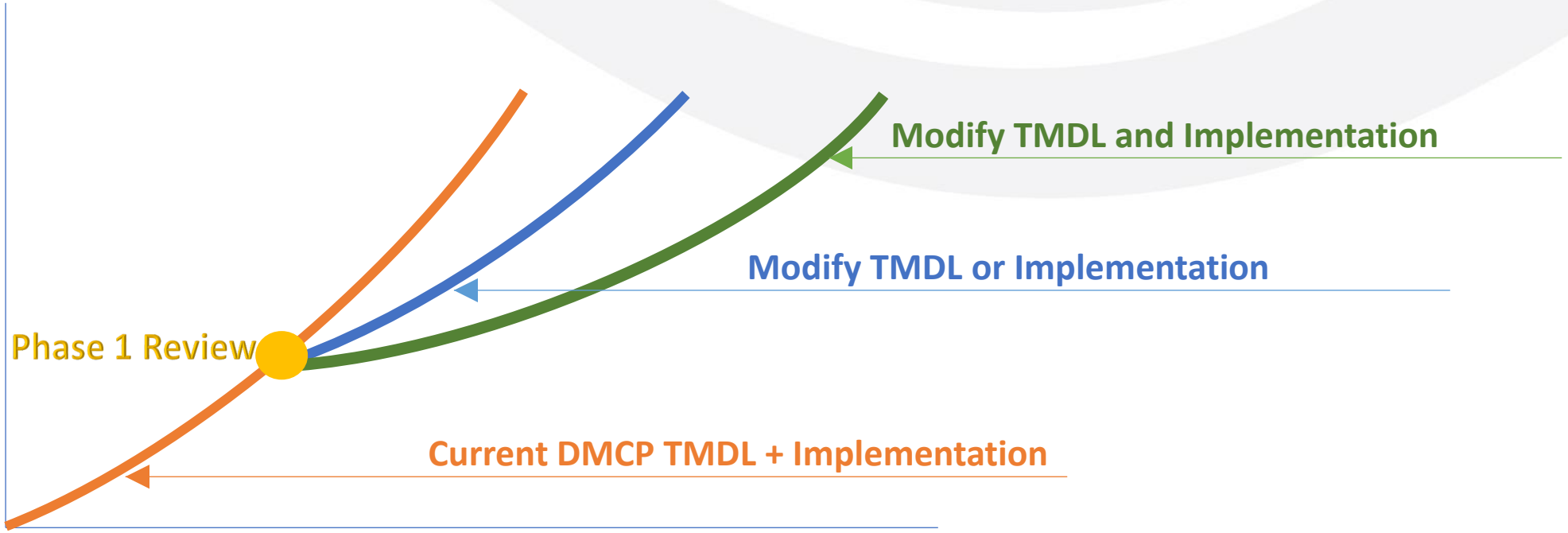
STAFF REPORT FOR SCIENTIFIC PEER REVIEW

March 2024

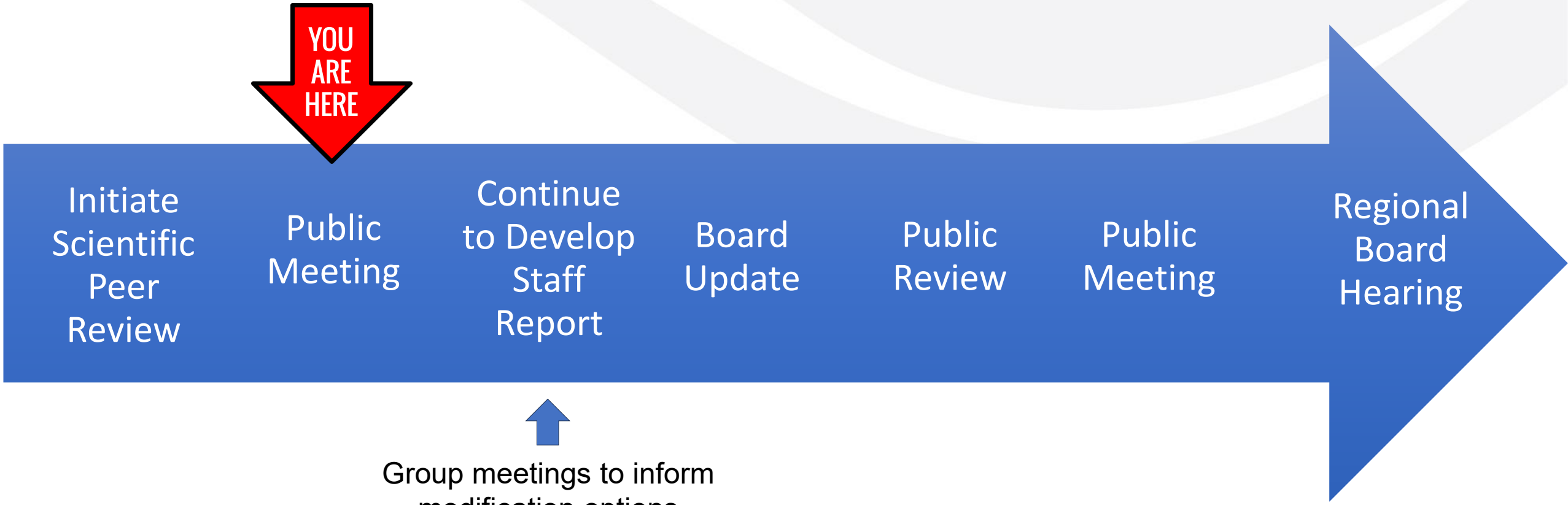
REPORT PREPARED BY:

Jordan Robbins, Environmental Scientist
Robin Merod, Ph.D., P.E., Water Resource Control Engineer
Lauren Leles, M.S., Senior Environmental Scientist

DMCP Review Trajectory



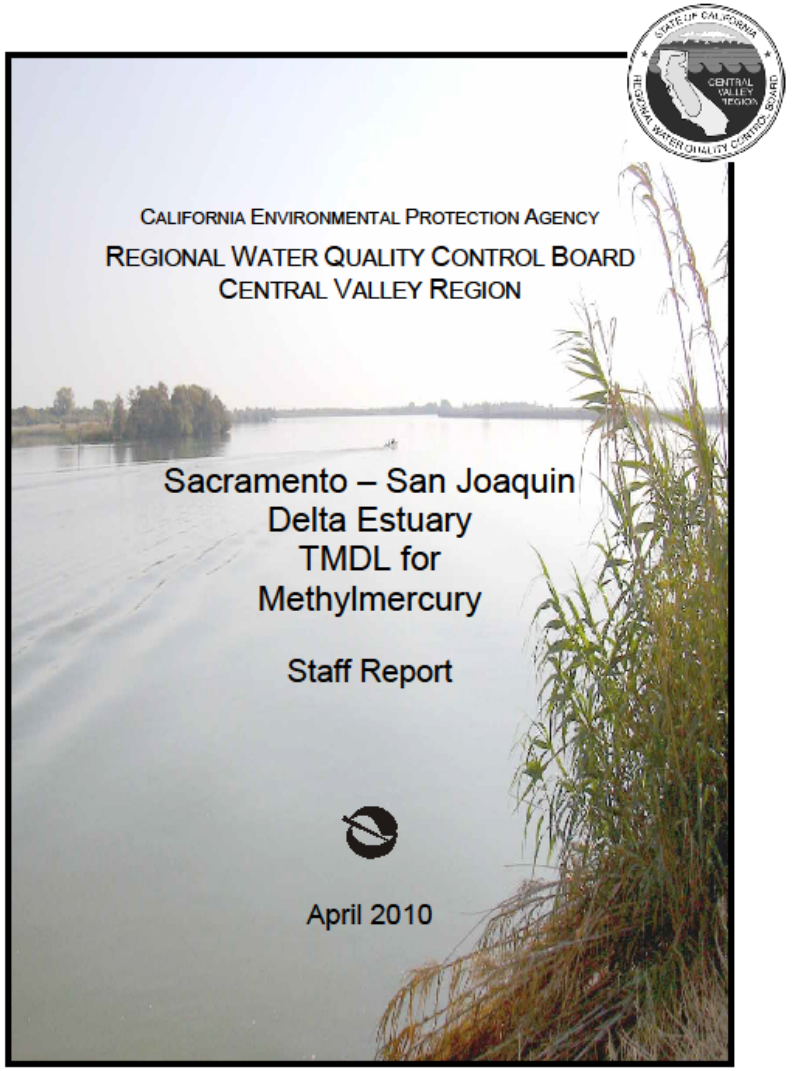
DMCP Review Process



DMCP Overview

TMDL + Program of Implementation = DMCP

- April 2010: Central Valley Water Board adopted DMCP
- October 2011: USEPA approval, DMCP became effective, and Phase 1 began
- Phase 1 Review
- Phase 2 began October 2022; ends in 2030
- Phase 1 and 2 are happening concurrent



DMCP Overview – Phase 1

- Point and non-point methylmercury control studies and pilot projects conducted
- Provisions for:
  - Pollution minimization programs
  - Controlling sediment-bound mercury
  - Reducing total mercury loading to San Francisco Bay
- Language for the development of:
  - Future upstream total mercury control programs for major tributaries
  - Mercury offset program
  - Mercury exposure reduction program for human consumption (MERP)

Mercury Exposure Reduction Program

- Formation of an advisory group
- Outreach and education projects
- Developing and posting signs
- Creating multilingual educational materials

Program not currently funded

DMCP Overview – Phase 1 Review

Board staff will review and consider

- Modification of:
  - Methylmercury Targets
  - Water Quality Objectives
  - Load and Waste Load Allocations
- Potential public and environmental benefits and impacts of attaining allocations
- Final compliance date
- Implementation practices and schedules
- Creation of a Mercury Offset Program

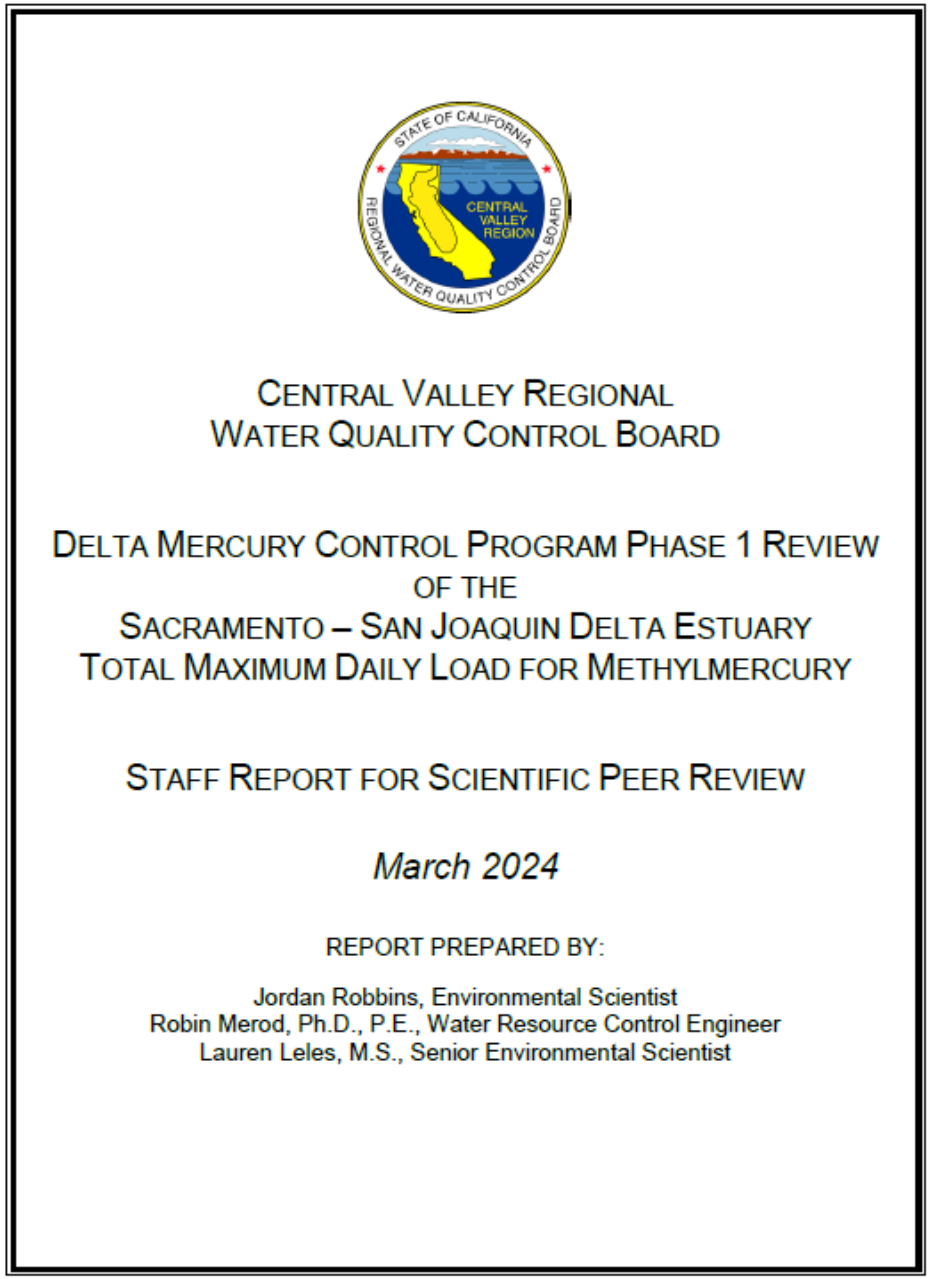
DMCP Overview – Phase 2

- Begins after Phase 1 Review or Oct 2022, whichever occurs first
- Dischargers required to:
  - Implement methylmercury control programs to meet allocations
  - Continue inorganic mercury reduction programs
  - Conduct compliance monitoring
- Central Valley Water Board issued letters since some requirements underway or will be considered if DMCP is modified
- Current load and waste load allocations become effective with compliance date of 2030 unless Board modifies implementation schedule and Final Compliance Date

DMCP Review

Board staff incorporated new data and evaluated:

- Geographic Scope
- Methylmercury Targets in fish tissue (Water Quality Objectives)
- Linkage Analysis
- Methylmercury Mass Balance
- Source Analyses and Allocations



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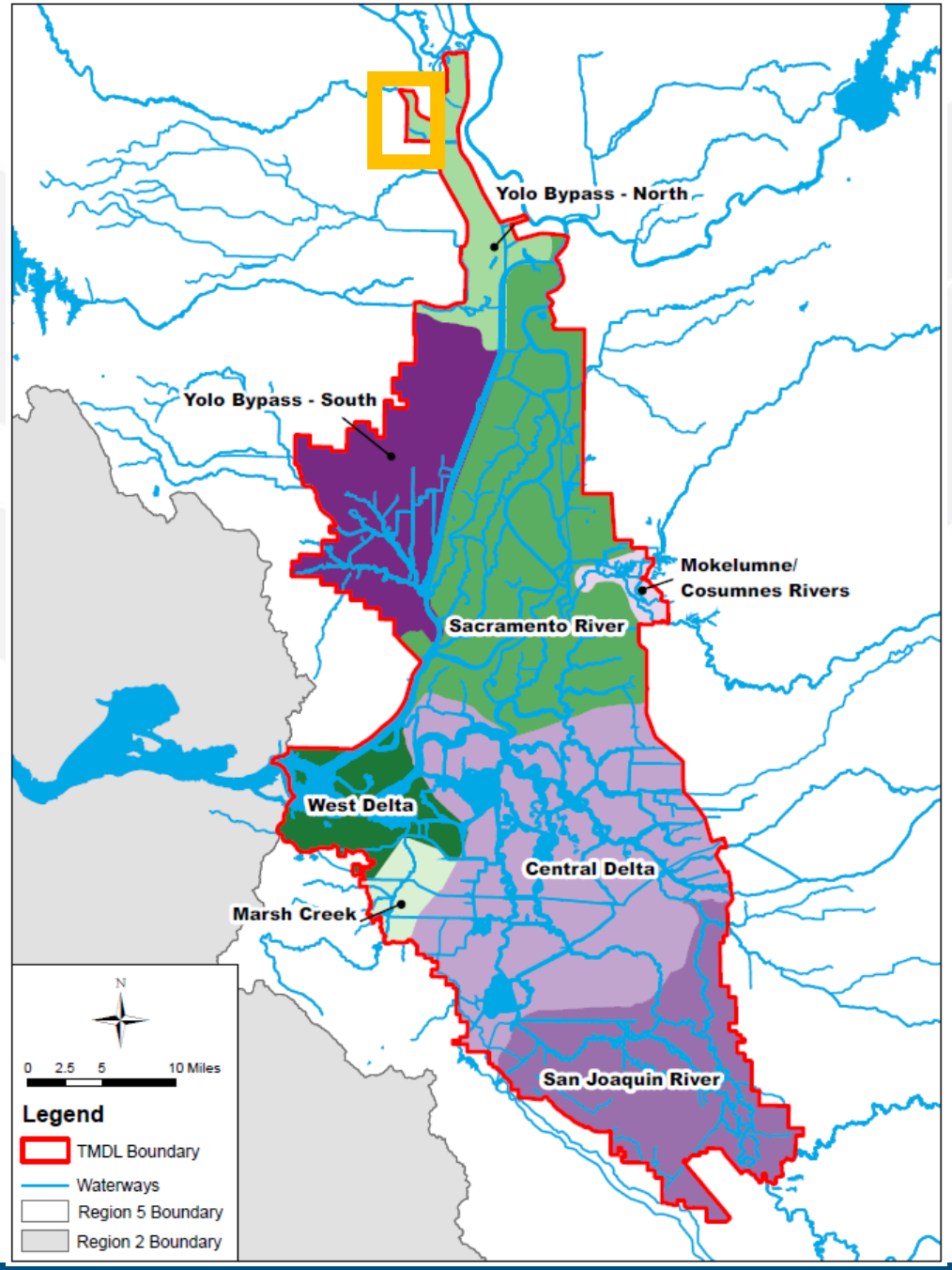
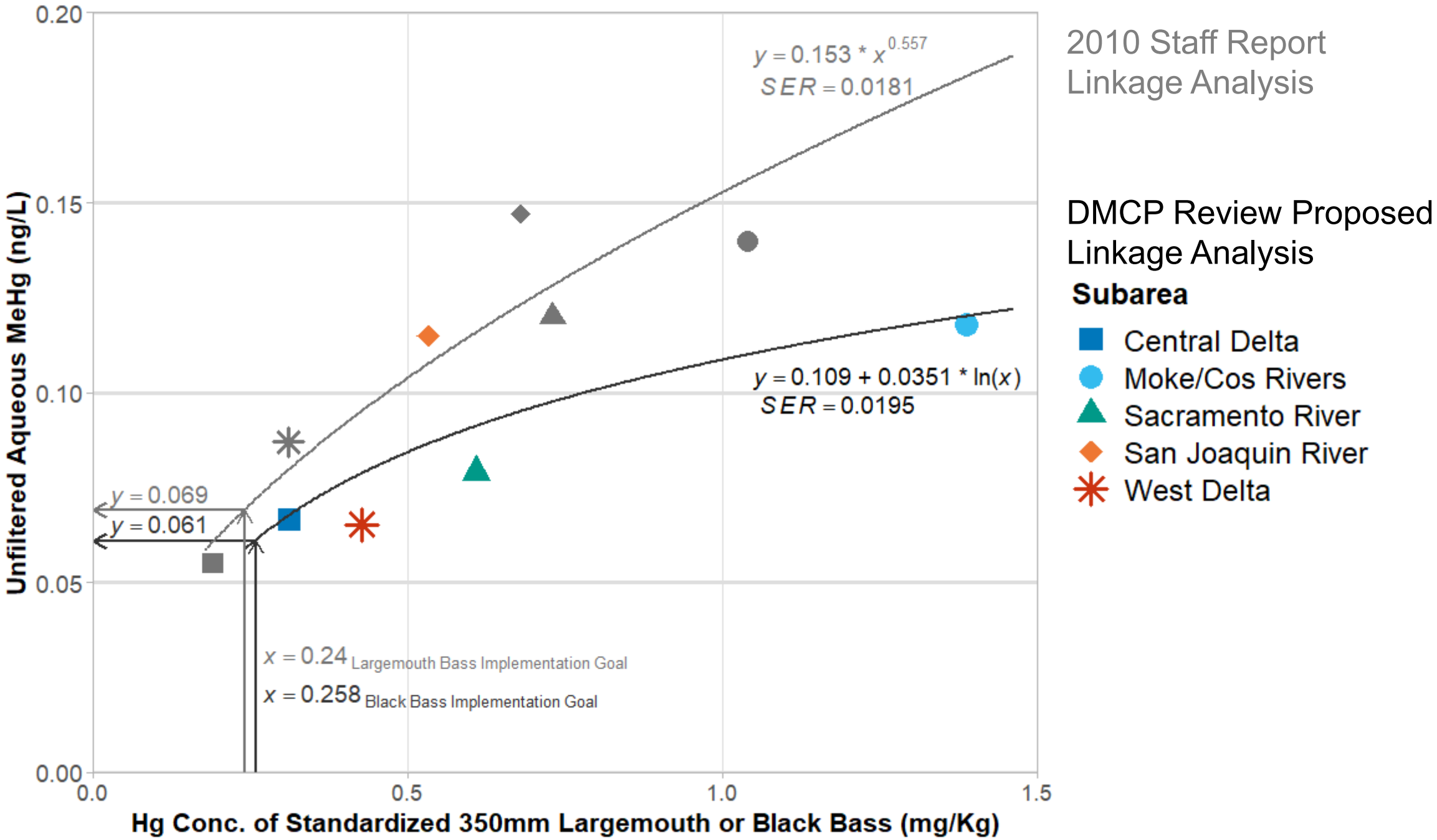
DMCP Review: Geographic Scope



Targets & Water Quality Objectives

Trophic Level Group (TLG)	Receptor Species	Fish Tissue Targets (mg/Kg)	Numeric Targets & WQOs (mg/Kg)
TL4 Fish (150-500 mm)	Bald eagle	0.31	
TL4 Fish (150-500 mm)	Human	0.24	0.24
TL4 Fish (150-350 mm)	Osprey	0.26	
TL4 Fish (150-350 mm)	River otter	0.36	
TL3 Fish (150-500 mm)	Bald eagle	0.11	
TL3 Fish (150-500 mm)	Human	0.08	0.08
TL3 Fish (150-350 mm)	Osprey & Common merganser	0.09	
TL3 Fish (150-350 mm)	Western grebe	0.08	
TL3 Fish (50-150 mm)	Double-crested cormorant	0.09	
TL3 Fish (50-150 mm)	Kingfisher	0.05	
TL3 Fish (50-150 mm)	Mink	0.08	
TL3 Fish (50-150 mm)	River otter	0.04	
TL3 Fish (<50 mm)	California least tern	0.03	0.03
TL3 Fish (<50 mm)	Western snowy plover	0.10	



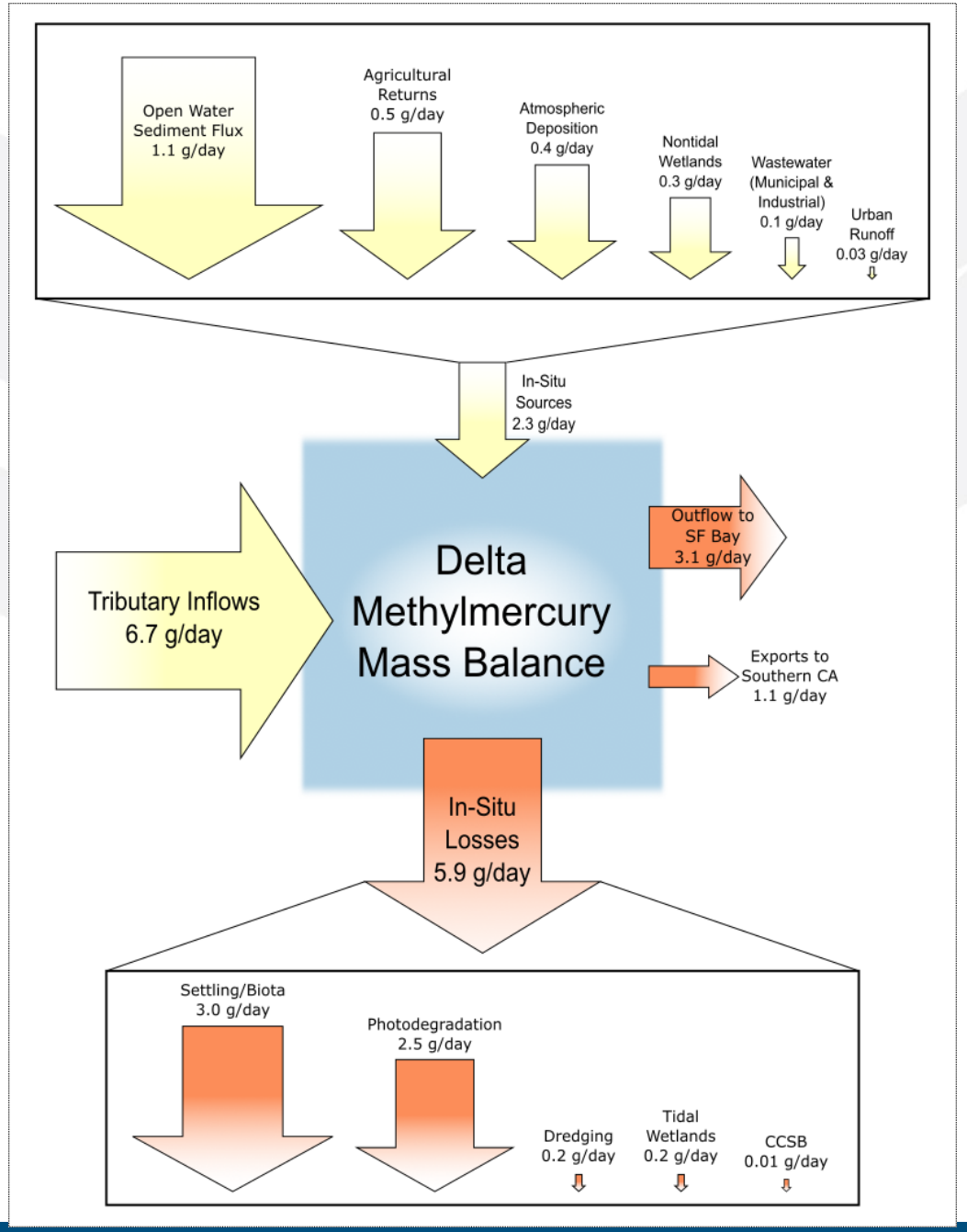
2010 Staff Report
Linkage Analysis

DMCP Review Proposed
Linkage Analysis

Subarea

- Central Delta
- Moke/Cos Rivers
- Sacramento River
- San Joaquin River
- West Delta

DMCP Review: Methylmercury Mass Balance



Proposed Modifications - Nonpoint Sources & Load Allocations

AGRICULTURAL RETURNS

ATMOSPHERIC DEPOSITION

OPEN WATER SEDIMENT FLUX

NONTIDAL WETLANDS

TIDAL WETLANDS

CACHE CREEK SETTLING BASIN

TRIBUTARY INFLOWS

URBAN RUNOFF (NONPOINT SOURCE)

Proposed Modifications - Point Sources & Waste Load Allocations

DREDGING

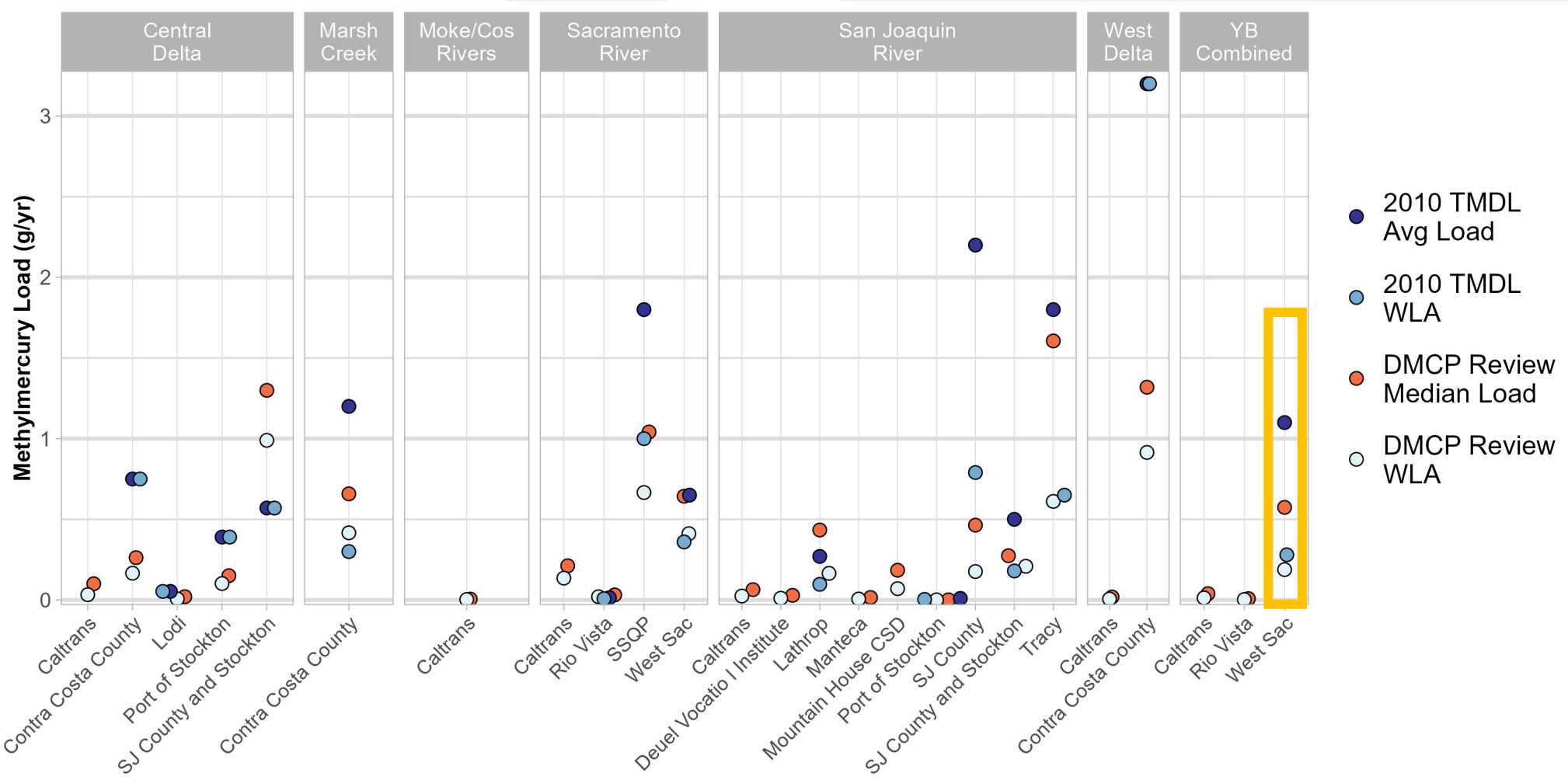
NPDES WWTF

NPDES WWTF
(FUTURE GROWTH)

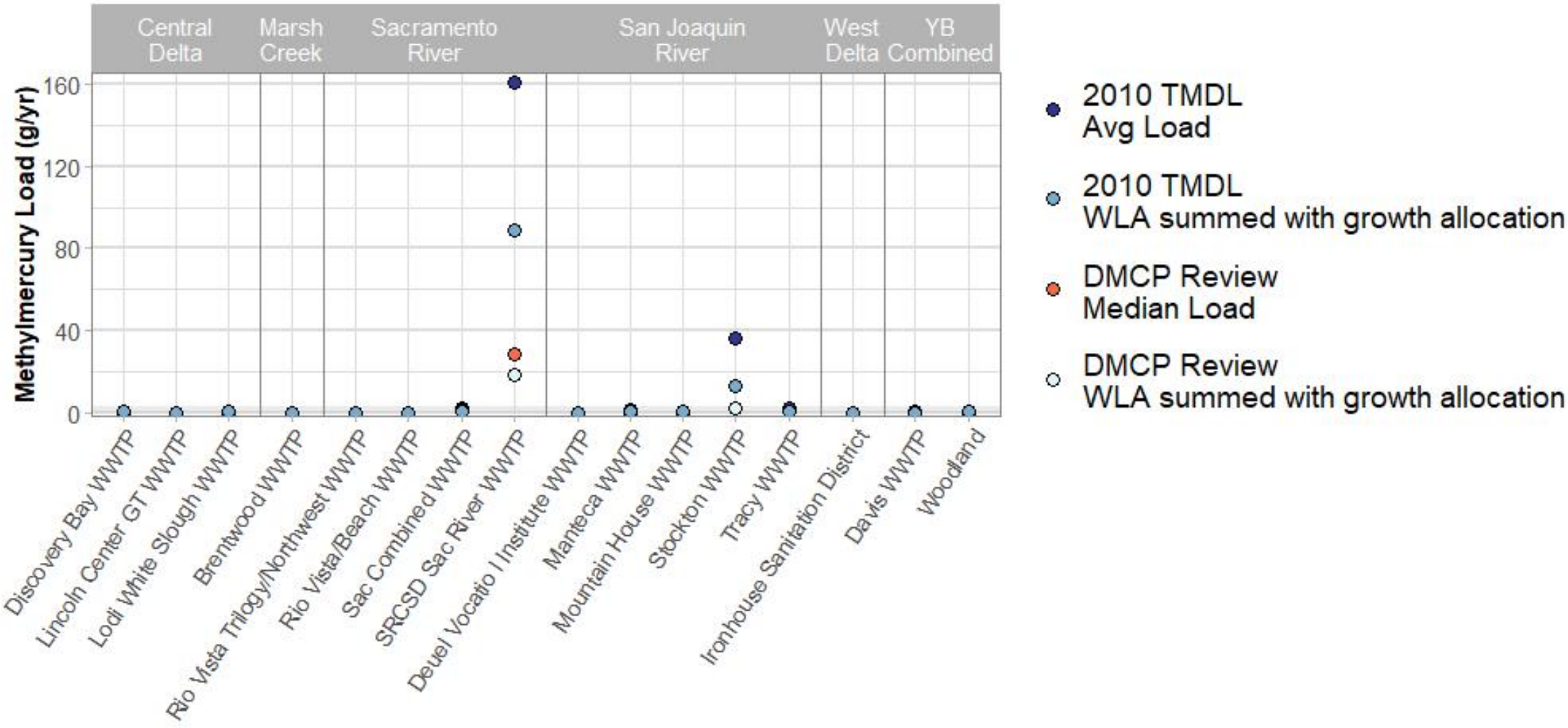
NDPES MS4

UNASSIGNED NPDES
WWTF & MS4

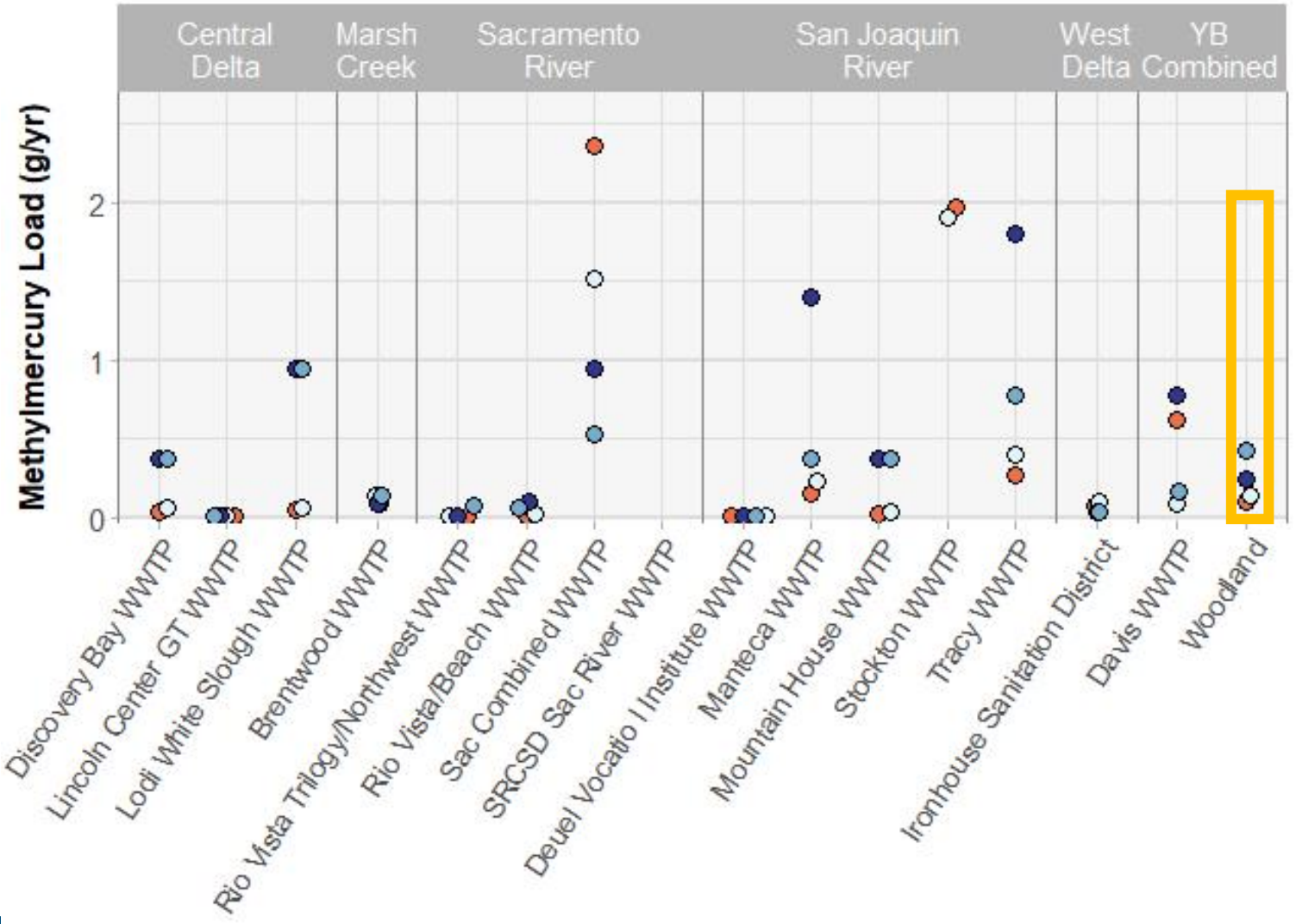
MS4 Waste Load Allocations



WWTP Waste Load Allocations



WWTP Waste Load Allocations (Zoomed)



- 2010 TMDL Avg Load
- 2010 TMDL WLA summed with growth allocation
- DMCP Review Median Load
- DMCP Review WLA summed with growth allocation

DMCP Review Next Steps

Outreach and Education

- Educate and engage with Regional Board members
- Public meetings with tribes, dischargers, and others
- Continue regularly updating State Board & USEPA

Develop options for modifications to DMCP

- Based on public meetings, scientific peer review feedback, Board member briefings and meetings

Questions and Discussion

RB5S-MercuryComments@waterboards.ca.gov

Delta Mercury Control Program Website:
https://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/central_valley_projects/delta_hg/