

Item #5

Basin Plan Amendments for
the Control of Methylmercury
and Total Mercury in the Delta

State Water Resources Control Board

June 21, 2011

Delta Methylmercury TMDL and Basin Plan Amendments

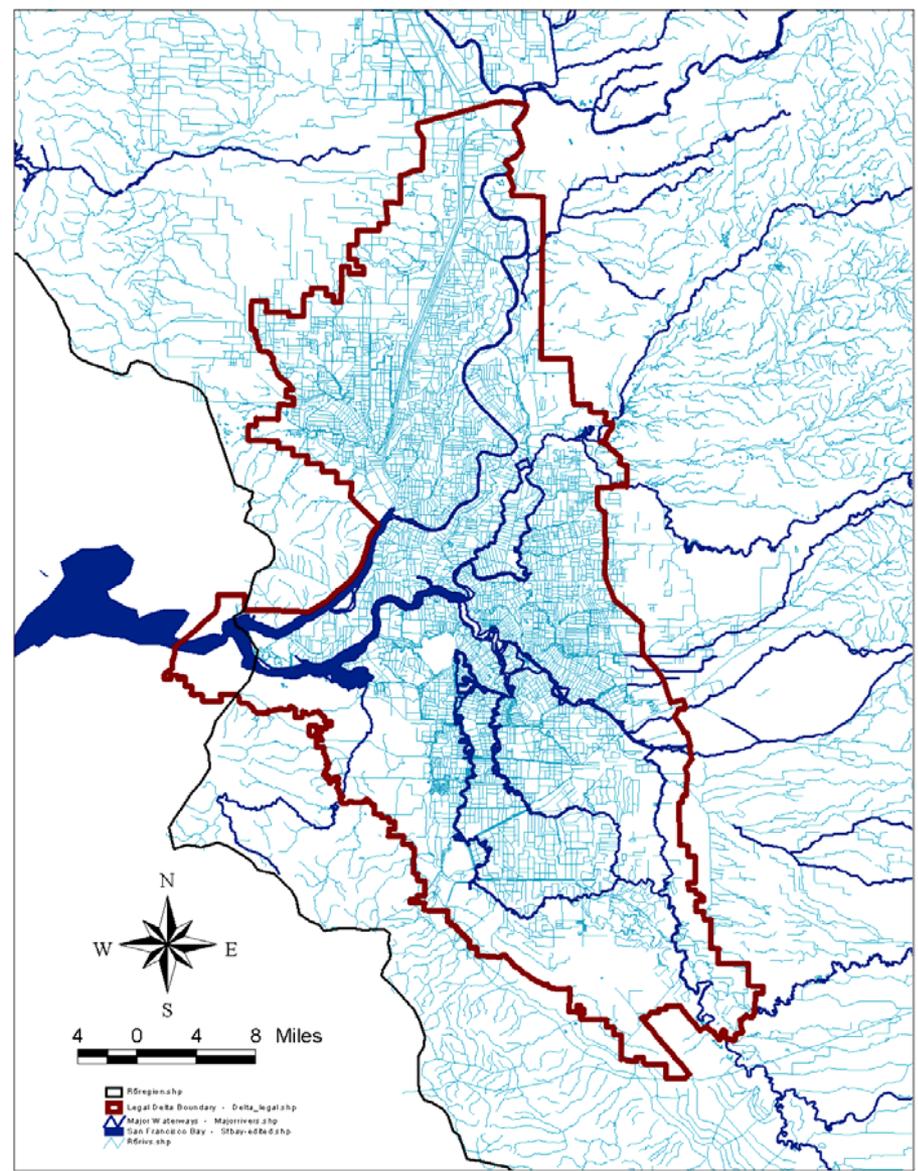
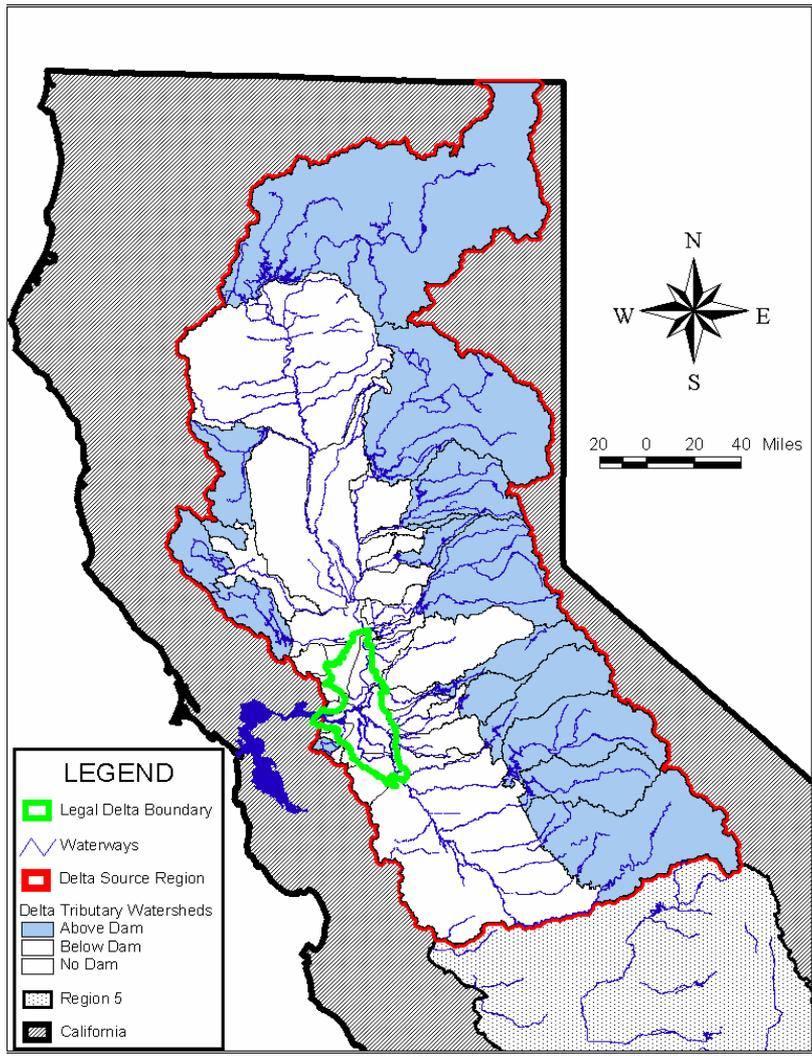
- Adopted 22 April 2010
- New fish tissue objectives
- Methylmercury allocations
- Implementation plan to reduce mercury and methylmercury loads
- Phased approach
- Review in 9 years

Comments

- 11 comment letters, one late
- Responses

Recommendation

- Approve the Amendments to incorporate the TMDL and implementation plan into the Central Valley Water Board's Basin Plan
- Questions



Why is mercury a problem?

- High mercury levels 
 - Levels in Delta fish 2x EPA levels
 - Impairs nervous, reproductive & immune systems in humans & wildlife
- Consumption Advisories & Safe Eating Guidelines

Who eats Delta fish?

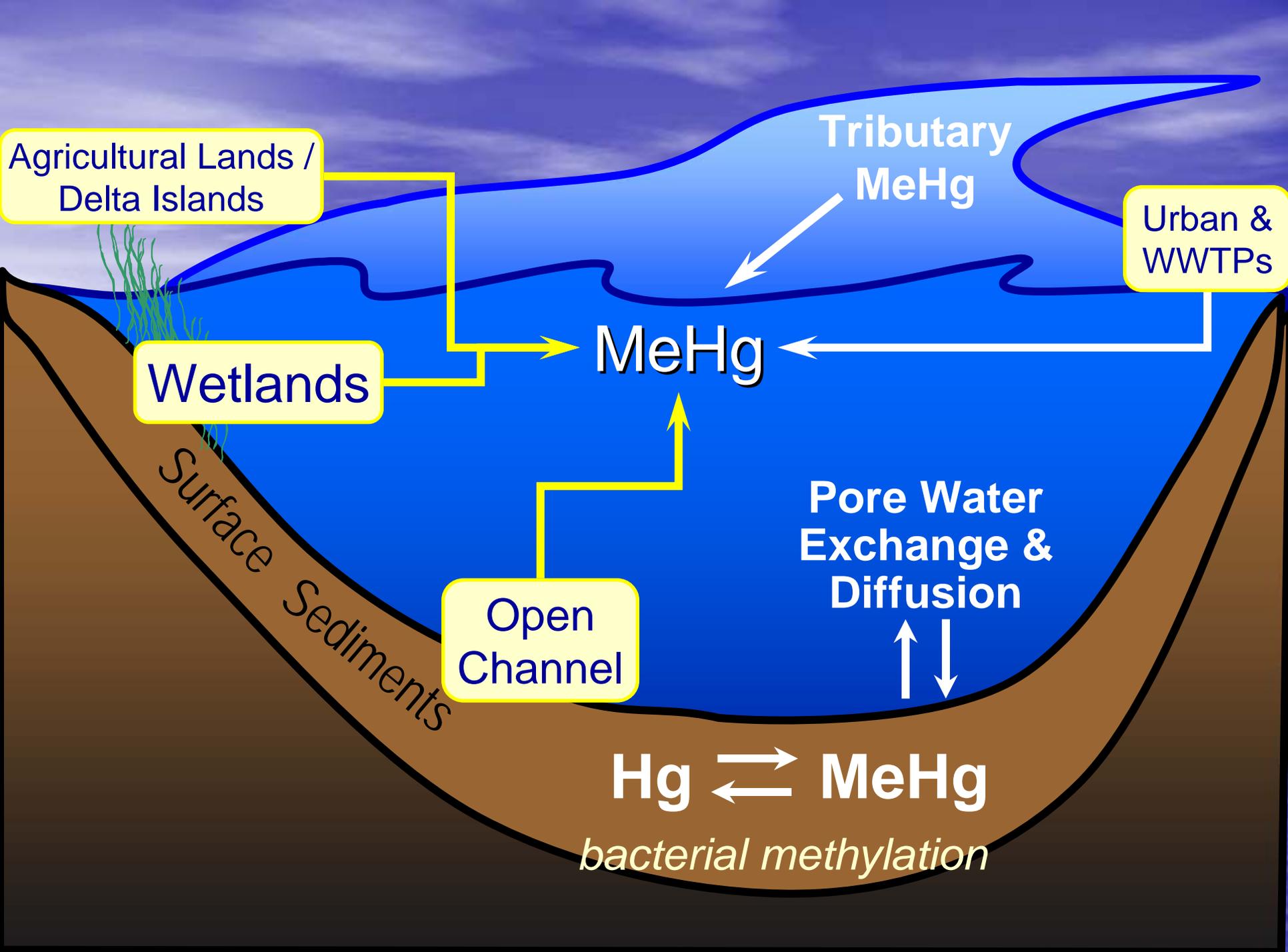
- ~170,000 licensed sport & subsistence anglers per year+ unknown # unlicensed
- UCD estimated 5% of fish consumers that eat Delta fish have mercury intake rate 10x the safe dose- **40,000 anglers + families**
- Wildlife: Least tern, kingfisher, western grebes, bald eagle, osprey, & river otter



Methylmercury

- Most toxic form of Hg
- Concentrates up the food chain
- Exposure to MeHg is by eating fish and shellfish





Agricultural Lands /
Delta Islands

Wetlands

Open
Channel

Urban &
WWTPs

Tributary
MeHg

MeHg

Pore Water
Exchange &
Diffusion

Surface
Sediments

Hg \rightleftharpoons MeHg

bacterial methylation

Fish Tissue MeHg Objectives for Delta Fish



1 meal/wk



- OK to eat > 1 meal/wk of less contaminated fish
- Consistent with Objectives approved for San Francisco Bay

TMDL

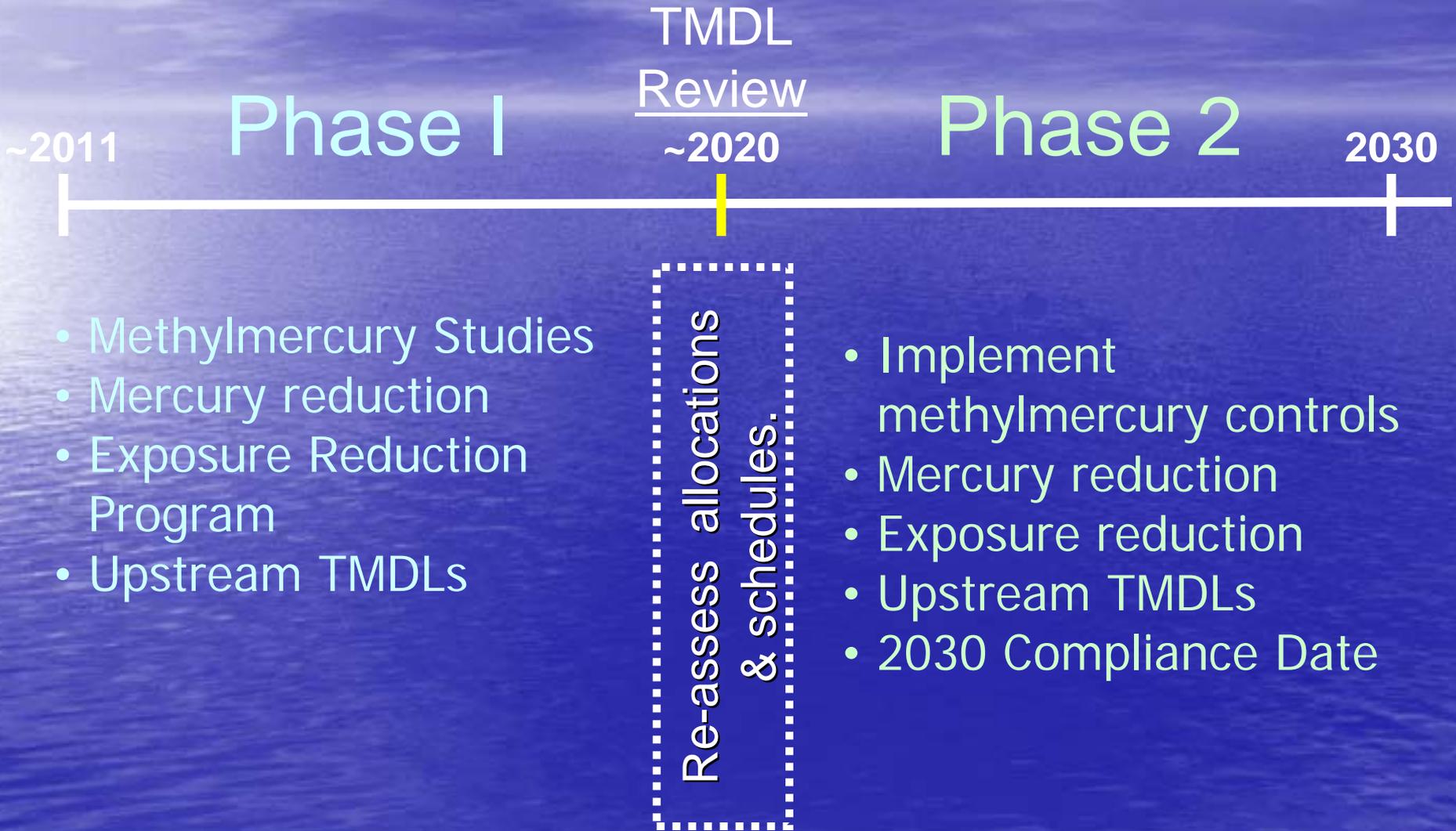
Methylmercury Allocations

- Wetlands
- Irrigated Agriculture
- Open Water
- Tributaries
- Storm Water Agencies
- Wastewater Treatment Plants
- Atmospheric Deposition

Implementation

- Reduce Total mercury loads
 - Erosion control, NPS management practices
 - Controls for WWTPs, stormwater, dredging
 - Cache Creek settling basin
 - Upstream TMDLs
- Reduce methylmercury loads
 - Sources, inc. state & federal agencies, conduct studies to evaluate methylmercury control options
- Reduce exposure to fish eating public
 - Develop exposure reduction program

Phased Approach



Phase I Methylmercury Control Studies

- Identify and evaluate mgmt practices to reduce methylmercury discharges
- Coordinated, comprehensive approach
- Stakeholder Advisory Group, TAC
 - Prioritize and coordinate methylmercury control studies

Recommendation

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