Proposed Statewide Mercury Amendment

State Water Resources Control Board

Focus Group Meetings

Summer 2014

Today's Agenda

- Purpose of today's meeting
- Background & Introduction
- Tribal fish consumption study
- Discussion: developing program elements & feedback
  1. Water quality objectives
  2. Implementation program
  3. Mercury control program for reservoirs
  4. Additional considerations
- Next steps

Purpose of Meeting

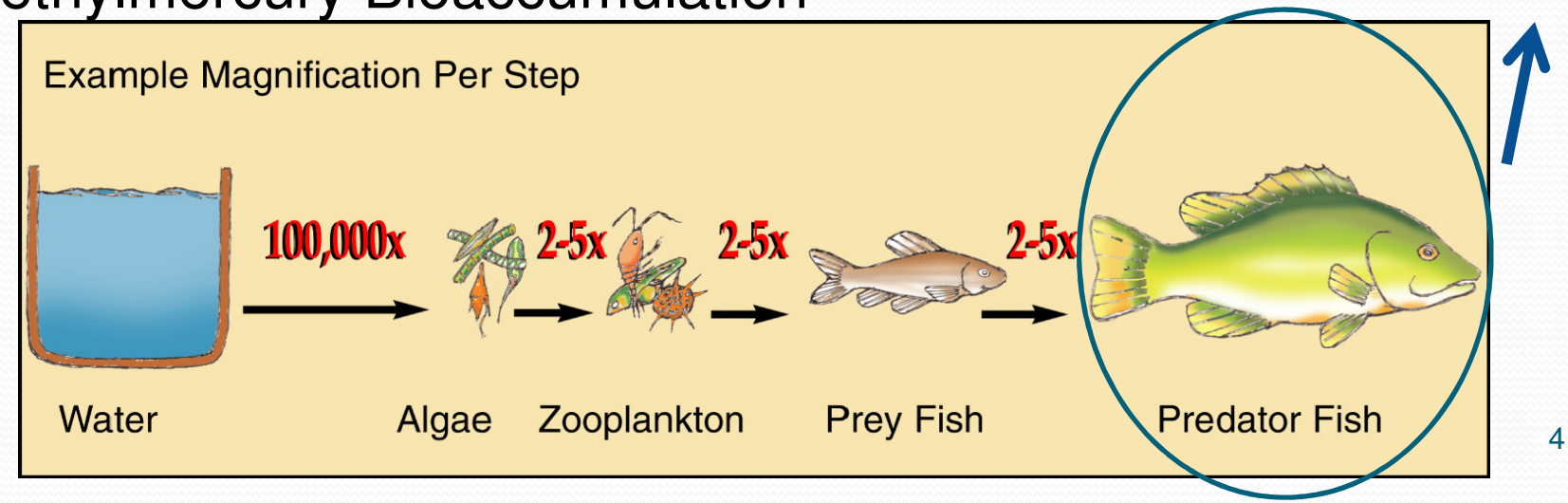
- Inform participants on the developing program and opportunities to participate
- To obtain early input

Background

Methylmercury:

- is a form of mercury.
- is a potent brain and nerve toxin.
- accumulates in fish tissue.

Methylmercury Bioaccumulation



Background-Mercury sources

1. Naturally mercury enriched soils
2. ★ Gold and mercury mining legacy (more significant)
3. ★ Atmospheric deposition (more significant)
   - Burning fossil fuels, artisanal mining (cement production, etc)
   - Global and local
4. Mercury containing items (less significant)
   - Dental amalgam, batteries, lights, and many others
5. Conversion of mercury to methylmercury
   - Some reservoirs, wetlands

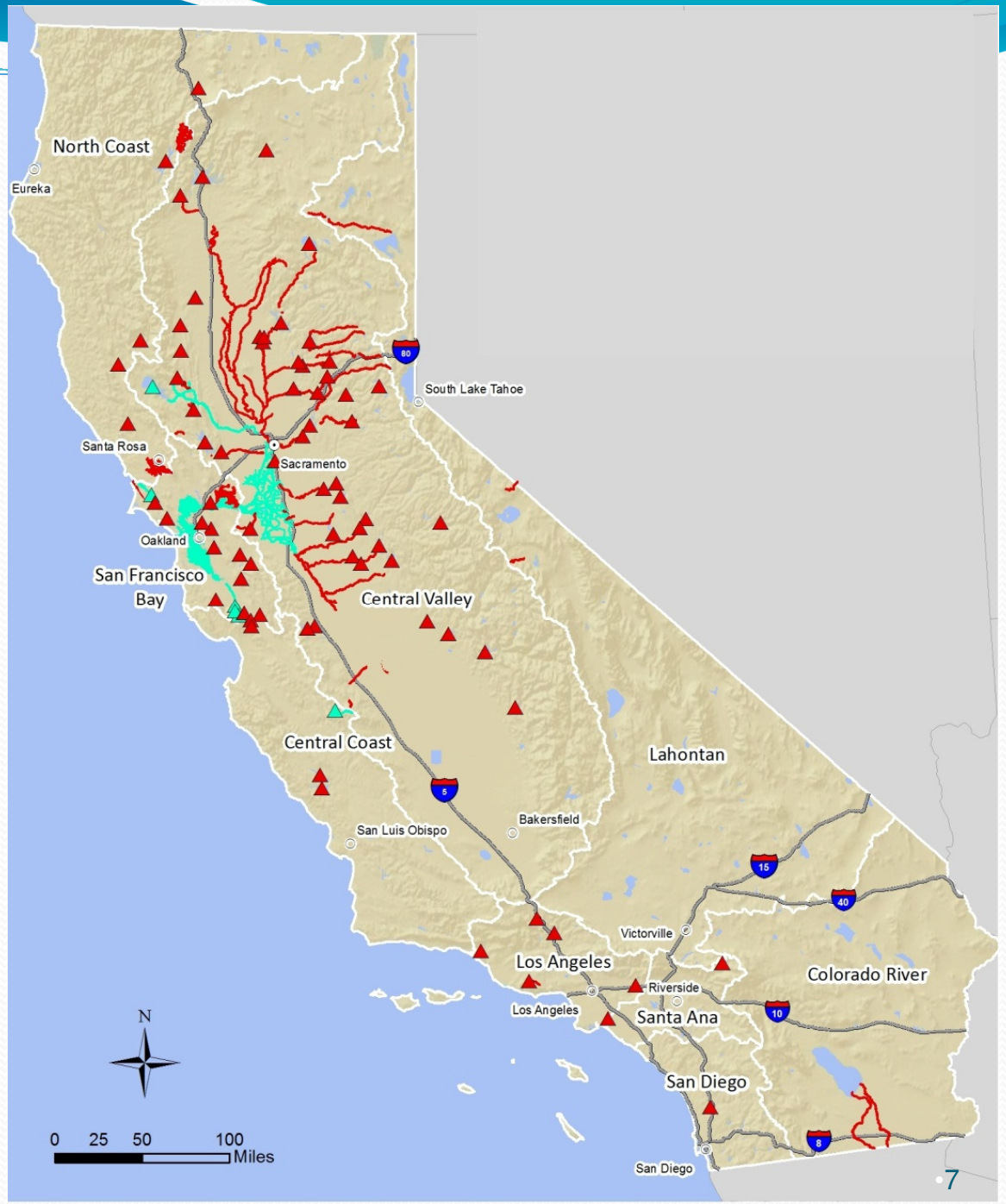
Background-Mercury Sources

Mercury contamination is wide spread and difficult to remove from the environment

“hot spot” in the American River

Why is new regulation needed?

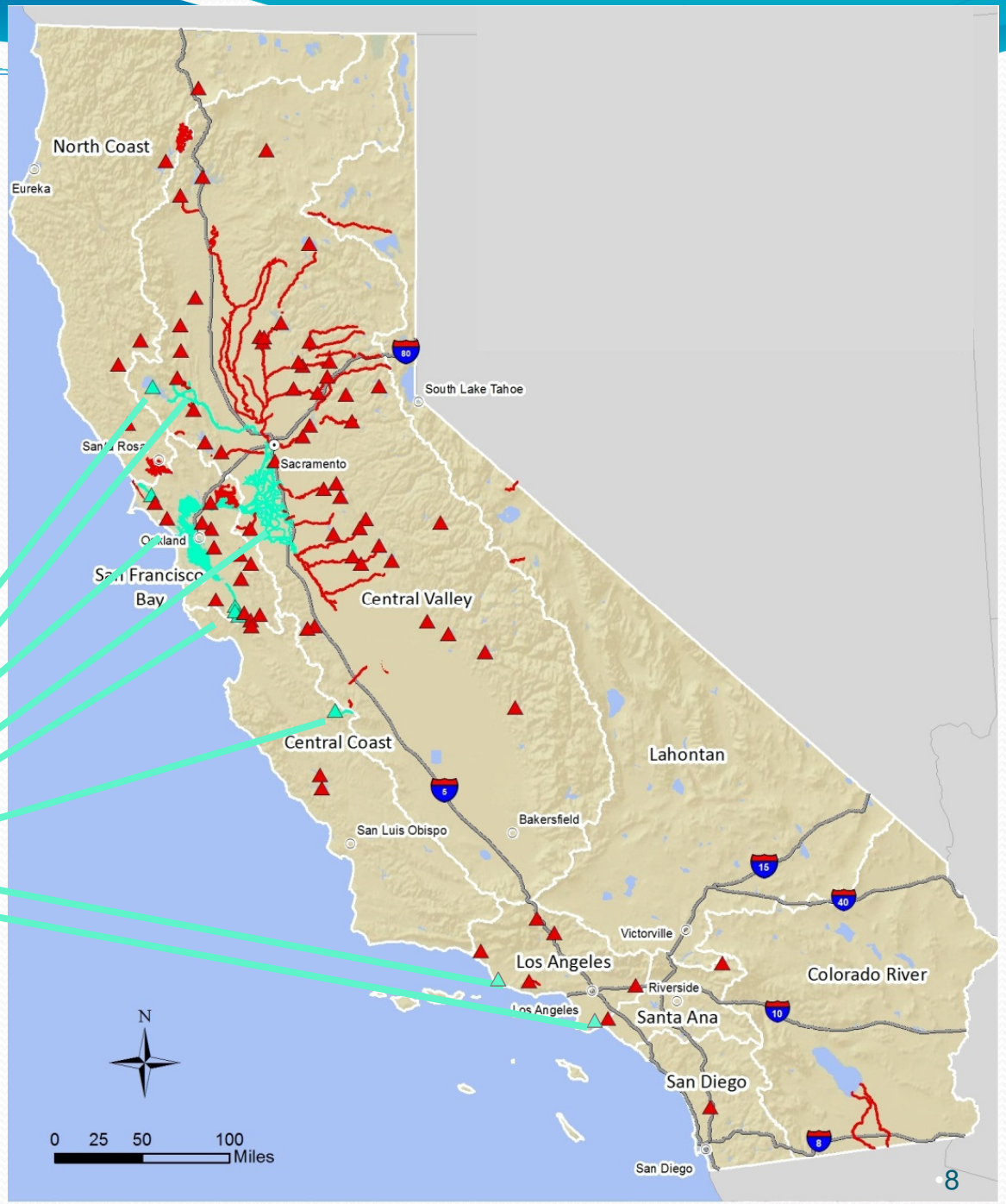
Mercury-impaired waters, as of 2010



Current status

Mercury-impaired waters, as of 2010

Impaired waters being addressed by a control plan (a TMDL) and new objectives



Why is new regulation needed?

Current statewide criteria for mercury

- California Toxics Rule (2000)
- Not protective of threatened and endangered species
- Do not reflect the U.S. EPA 2001 methylmercury criterion for human health

The proposal

- An amendment to the Inland Surface Water Enclosed Bays and Estuaries Plan to address mercury
  1. Water quality objectives
  2. Implementation program
  3. Mercury control program for reservoirs
- Not to supersede site-specific control plans (TMDLs)

Anticipated Schedule

California Environmental Quality Act (CEQA) scoping meeting	February 2007/ March 2012
Draft proposal development	***Ongoing***
Focus group meetings	***Ongoing***
Scientific peer review (publicly available draft)	Fall 2014
Public comment period, public workshop	Spring/Summer 2015
State Water Board adoption hearing	Fall 2015

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Study: California Tribes Fish-Use

- Fraser Shilling, UC Davis
- Survey:
  - how much? which species? where?
  - Present day and traditional
  - About 23 tribes, > 800 participants
- Completed this summer

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Key Questions

1. How will this mercury amendment affect you?
2. What would you like to see included in this mercury amendment?

Developing program elements

1.1. Which water quality objective(s) should be selected for protecting human health statewide?

a. 0.3 mg/kg - 1 fish meal (8 oz) every two weeks*

b. **0.2 mg/kg - 1 fish meal a week***

- for commercial & sport fishing (COMM)

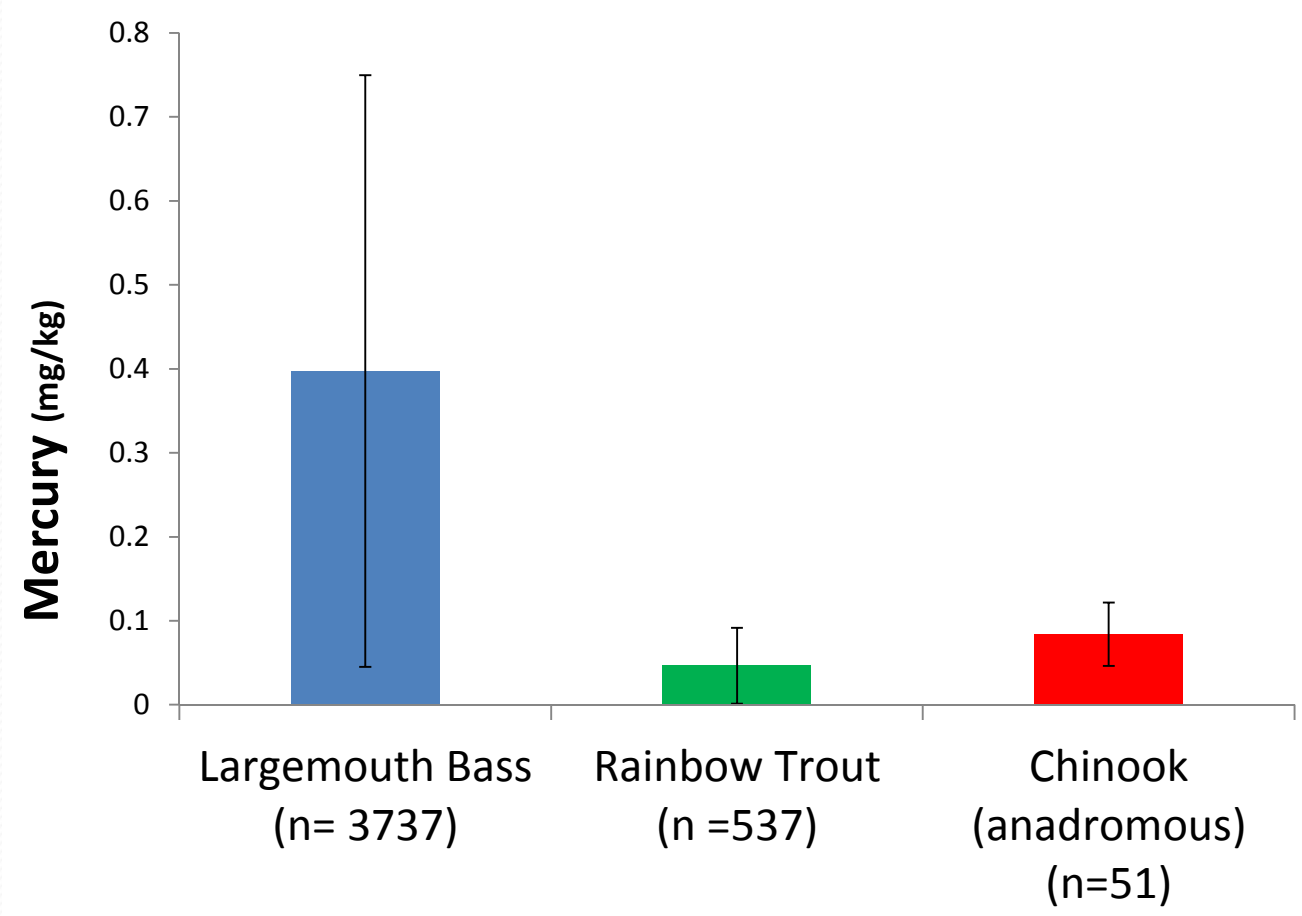
c. 0.05 mg/kg - 3-5 fish meals a week*

d. **If option "a" or "b" is chosen- additional objective:**

- for beneficial uses related to subsistence fishing and Native American culture (FISH and CUL)

* Applicable to a specific fish type discussed in next element

The species of fish matters



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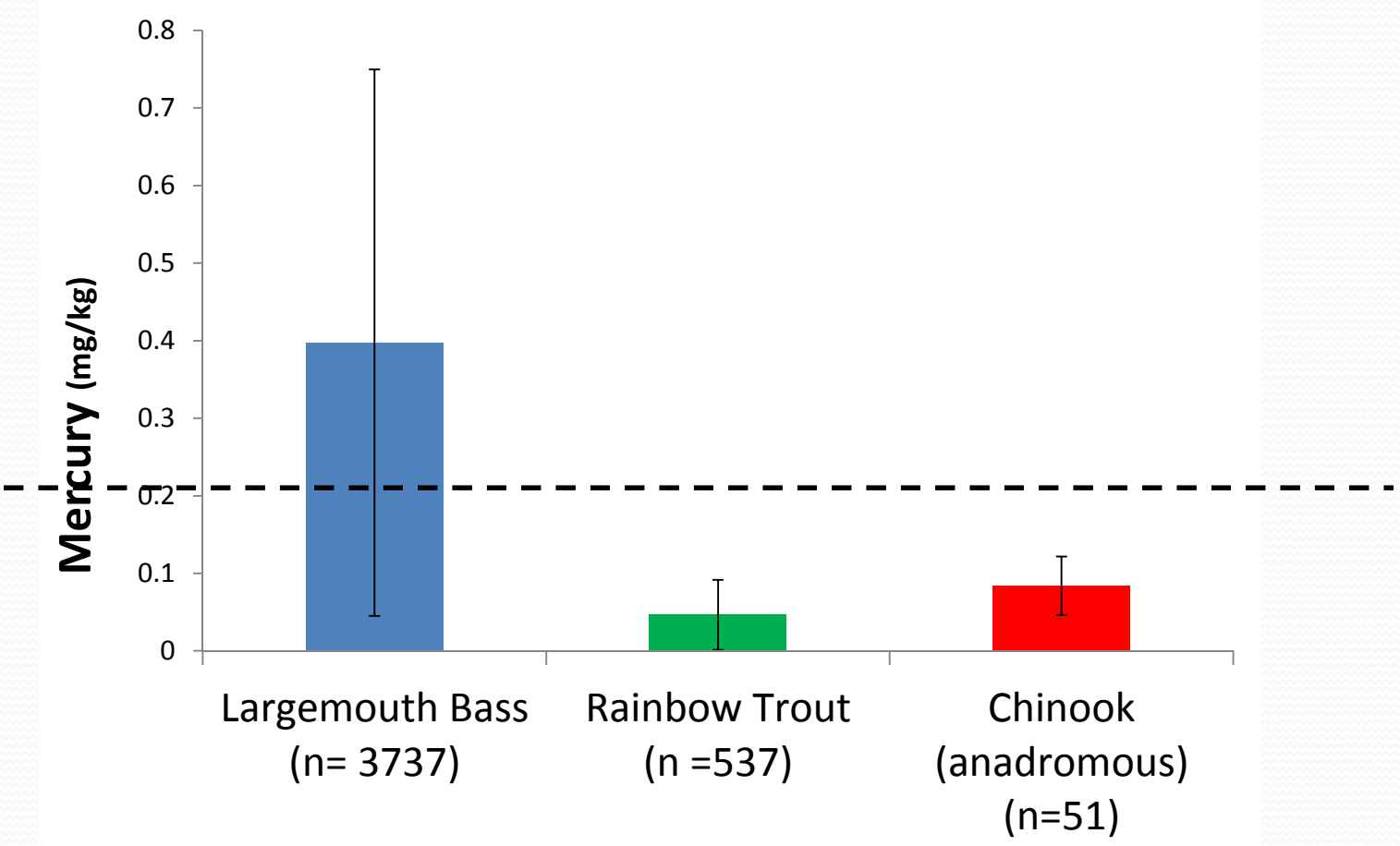

Developing program elements

1.2. Which fish species should be selected for the statewide water quality objective?

a. **fish that are highest in the food web**
   - e.g. largemouth bass, striped bass, large catfish.
   - for commercial & sport fishing, wildlife (COMM, WILD, RARE)

b. **a mixture of types of fish (less stringent than "a").**
   - e.g. same as above, plus trout, perch, crayfish, chinook, etc.
   - for beneficial uses related to subsistence fishing and Native American culture (FISH and CUL)

Developing program elements

1.3. Depending on the options selected above, should the proposed mercury amendment include an additional water quality objective to protect wildlife that eat fish?

a. Derive a separate water quality objective for wildlife, e.g., 0.08 mg/kg for fish that wildlife prey on.

b. **Ensure that the water quality objective for human health also protects wildlife.**

Developing program elements

1.4. Which water quality objective for protecting sensitive endangered species?

Proposed: 0.03 mg/kg methylmercury in fish < 50 mm (2”)

a. ***Site-specific –***
   - **where the least tern live**

b. *Statewide*

10 min Break?

A male least tern feeding a female

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Developing program elements

2.1. What should the implementation program require of mine owners?

a. Continue to use existing regulatory tools, such as cleanup orders and permits
   - prioritize erosion and sediment controls.

3.2. What should the mercury control program for reservoirs require of mines?

a. Same as “a” above

b. Develop a strategy to identify and prioritize mine sites and mining waste upstream of reservoirs for cleanup.

Developing program elements

2.2/3.3. What should the implementation program and the mercury control program for reservoirs require of surface water runoff from forests, agricultural land, some urban areas, wetland/riparian areas, and hydromodifications?

- Continue to use existing policy and regulatory tools
  - permits with enhanced sediment and erosion control.
  - dredging - comply with 401 certification requirements.

Developing program elements

2.3/3.4. What should the implementation program and the mercury control program for reservoirs require of storm water dischargers?

a. Best management practices (BMPs) - sediment and erosion control.

b. For larger municipalities/agencies - mercury pollution prevention

c. For specific industrial storm water dischargers - targets which would trigger BMPs

d. Consideration of storm water infiltration /capture

e. Combination of the above.

Developing program elements

2.4. What should the implementation program require of municipal and industrial wastewater dischargers?

a. Variance & bioaccumulation factor based effluent limits,
   - interim performance based limits & pollution minimization programs.

b. Site-specific bioaccumulation factor based effluent limits

c. Performance-based effluent limits.

d. Combination of the listed options

e. Limits derived from dischargers' relative contribution to the watershed. See element 3.5 (TMDL allocations)

Developing program elements

3.5. What should the mercury control program for reservoirs require of municipal wastewater and industrial dischargers?

- TMDL allocations (effluent limits) derived from dischargers' relative contribution to the watershed:
  - Derived using current, representative effluent mercury concentration data.
  - Facility-specific 'triggers' to ensure current treatment performance is maintained.
  - For negligible mercury discharges - minimal/no requirements
- (this is also option "e" in section 2.4)

Developing program elements

3.1. Should the mercury control program for reservoirs include water chemistry and fisheries management components?

- Water chemistry and fisheries management could reduce mercury levels fish
  - Phase 1: For a few reservoirs - conduct pilot tests.
  - Phase 2: Successful practices from pilot tests implemented in other reservoirs

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Developing program elements

4.1. How should the State Water Board recognize Native American culture and subsistence fishing as beneficial uses of waters?

- Establish beneficial use definitions:
  - Native American Culture (CUL)
  - Subsistence Fishing (FISH)
- so that Regional Water Boards may designate within respective regions.

Developing program elements

4.2. Should the mercury amendment do more to address atmospheric deposition of mercury?

a. No –reductions already expected

b. Yes, work with U.S. EPA, the California Air Resources Board, and local Air Quality Management Districts to:

- Evaluate mercury air emissions and deposition patterns.
- Possibly, develop additional mercury emissions reduction programs and target any identified hotspots.

Developing program elements

4.3. Should the mercury amendment incorporate periodic review or revisions?

- Mercury control program for reservoirs
  - modification of targets, cleanup goals, implementation provisions, schedules, or alternative regulatory approaches.

Developing program elements

4.4. People will continue to eat fish …To what extent should public exposure reduction be included?

a. Include public exposure reduction:
   signs and outreach

b. Do not include
   a. recommend other agencies do, and provide data for advisories

c. Same as option “b”, but provide *more* data to support more advisories

Key Questions/other comments

1. How will this mercury amendment affect you?
2. What would you like to see included in this mercury amendment?

Next steps

- We will compile feedback
- Email back to you, for your review

Next Steps

Anticipated Schedule

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Website

- Project web page:

  www.waterboards.ca.gov/water_issues/programs/mercury

- Sign up for project email notices at:

  www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml#quality

Contacts

- Vicky Whitney, Deputy Director for Water Quality, State Water Resources Control Board, Vicky.Whitney@waterboards.ca.gov, (916) 341-5568
- Thomas Mumley, Assistant Executive Officer, San Francisco Bay Regional Water Quality Control Board, Thomas.Mumley@waterboards.ca.gov, (510) 622-2395
- Carrie Austin, TMDL Section, San Francisco Bay Regional Water Quality Control Board, Carrie.Austin@waterboards.ca.gov, (510) 622-1015
- Patrick Morris, Mercury Metals TMDL Unit, Central Valley Regional Water Quality Control Board, Patrick.Morris@waterboards.ca.gov, (916) 464-4621
- Amanda Palumbo, Division of Water Quality, State Water Resources Control Board, Amanda.Palumbo@waterboards.ca.gov, (916) 341-5687
- Stacy Gillespie, Office of Chief Counsel, State Water Resources Control Board, Stacy.Gillespie@waterboards.ca.gov, (916) 341-5190

Thank you

Key Questions [alternate slide]

1. What aspects of the mercury problem (or the mercury amendment) are important to you?
2. What would you like to see included in this mercury amendment?