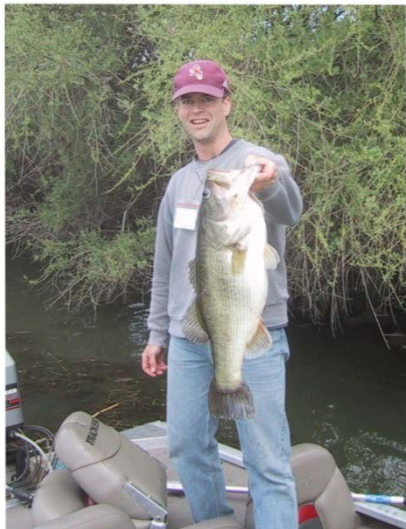
Statewide Mercury Control Program for Reservoirs

Stakeholder Meetings

June 3 and 9, 2016

Related Project

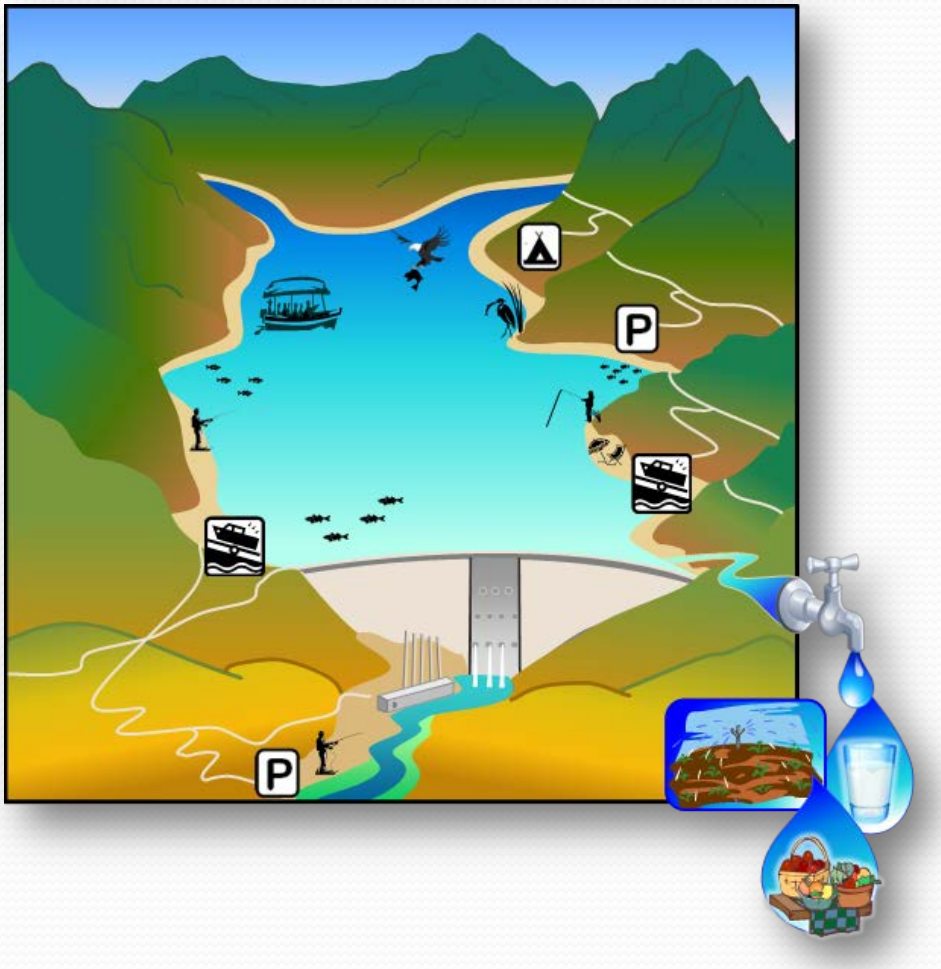
- Statewide Water Quality Objectives
  - Inland Surface Waters, Enclosed Bays and Estuaries
  - Including Reservoirs



Outline

1. Mercury problem
2. Proposed Statewide Mercury Control Program for Reservoirs
3. Discussion

Benefits and Challenges

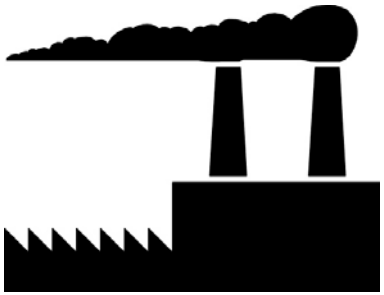


Mercury Problem

~50% Reservoirs

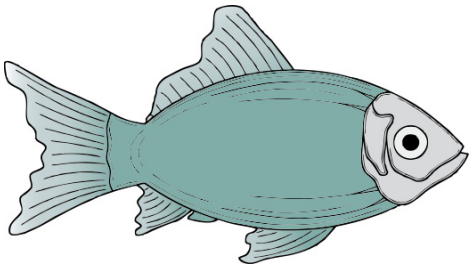
Key Factors in Problem

Pollution

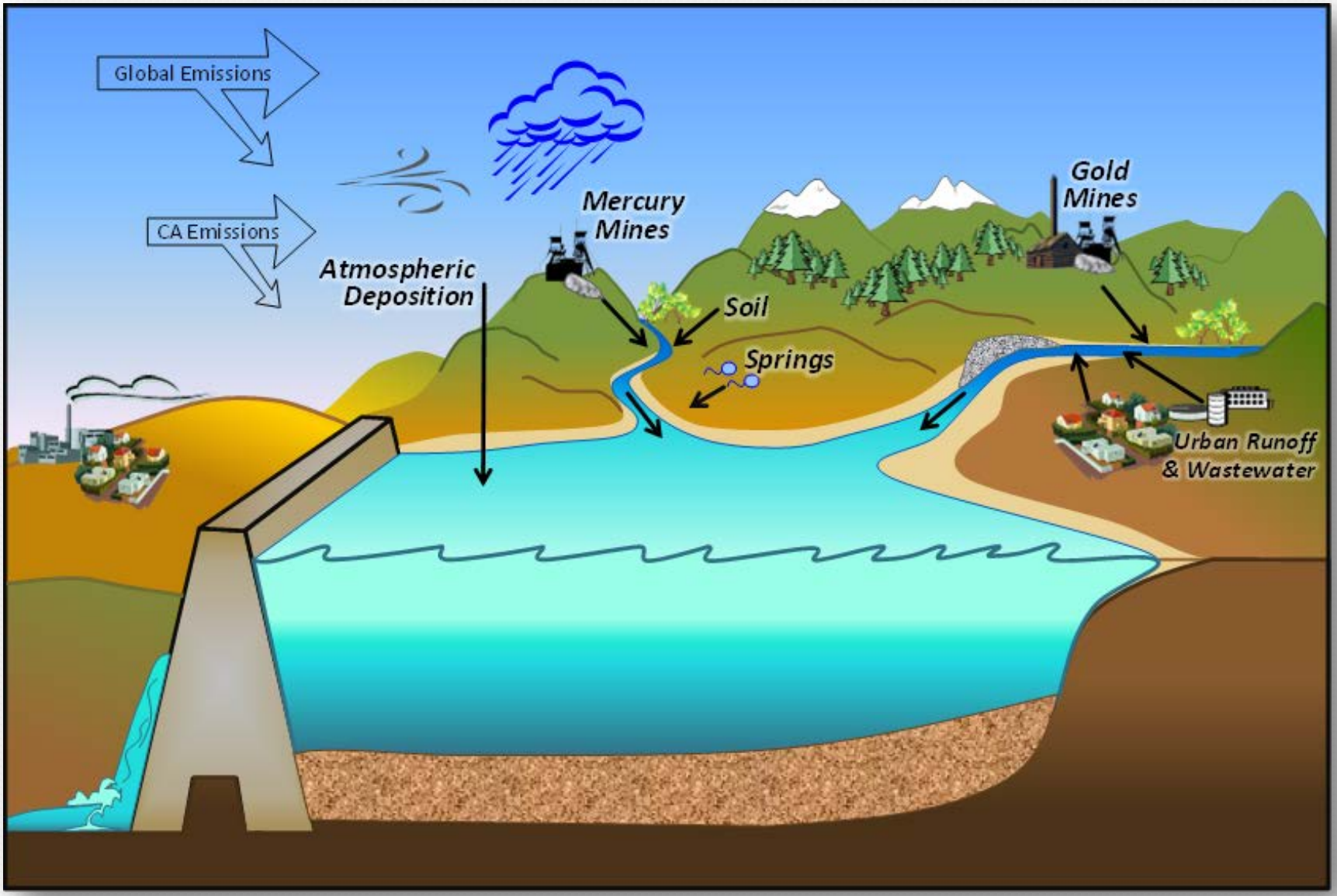


Water Chemistry

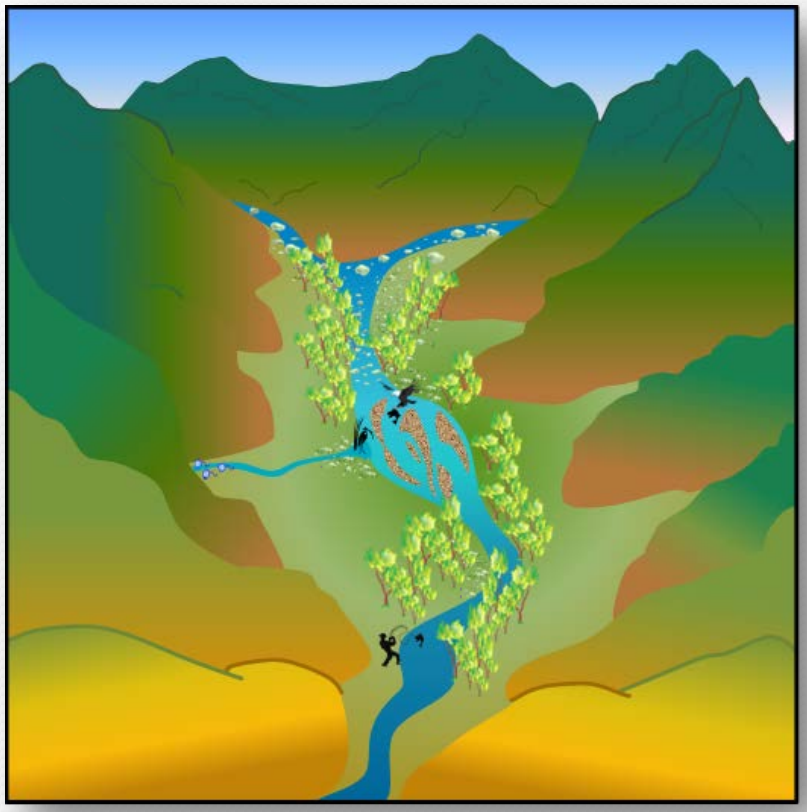
Fisheries



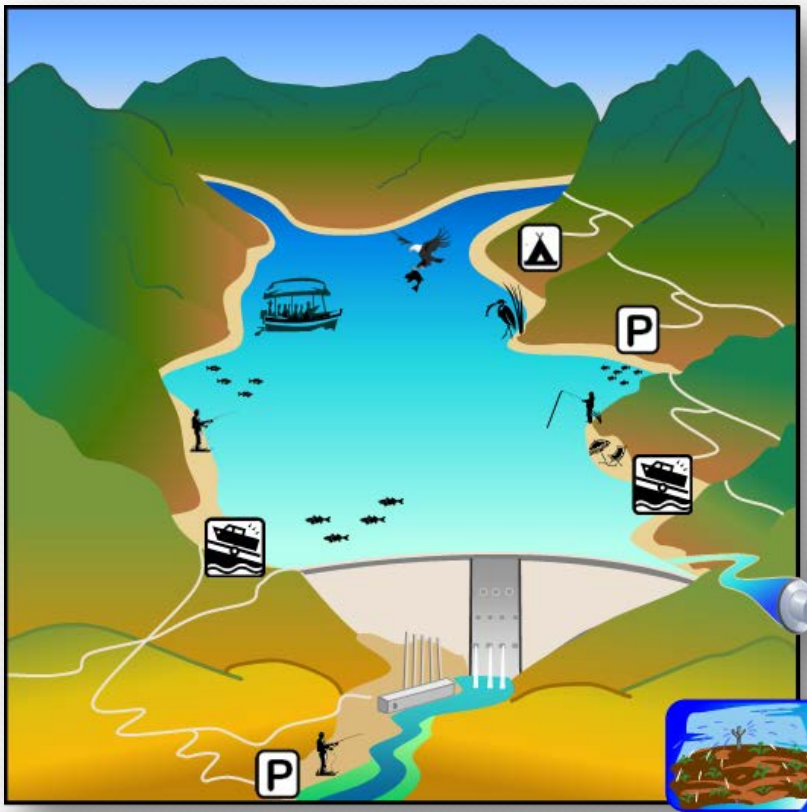
Sources of Mercury



Building a Reservoir

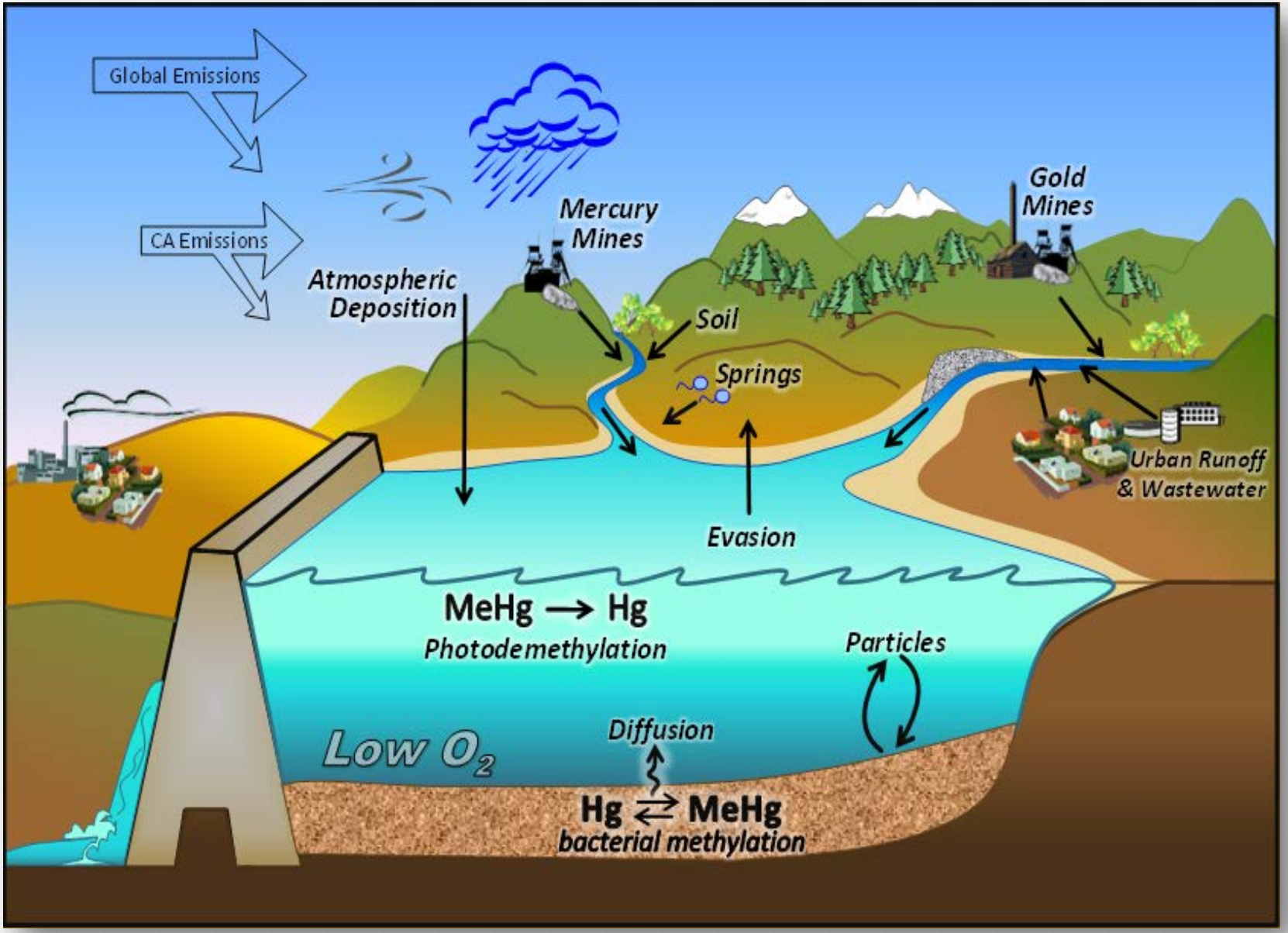


Before

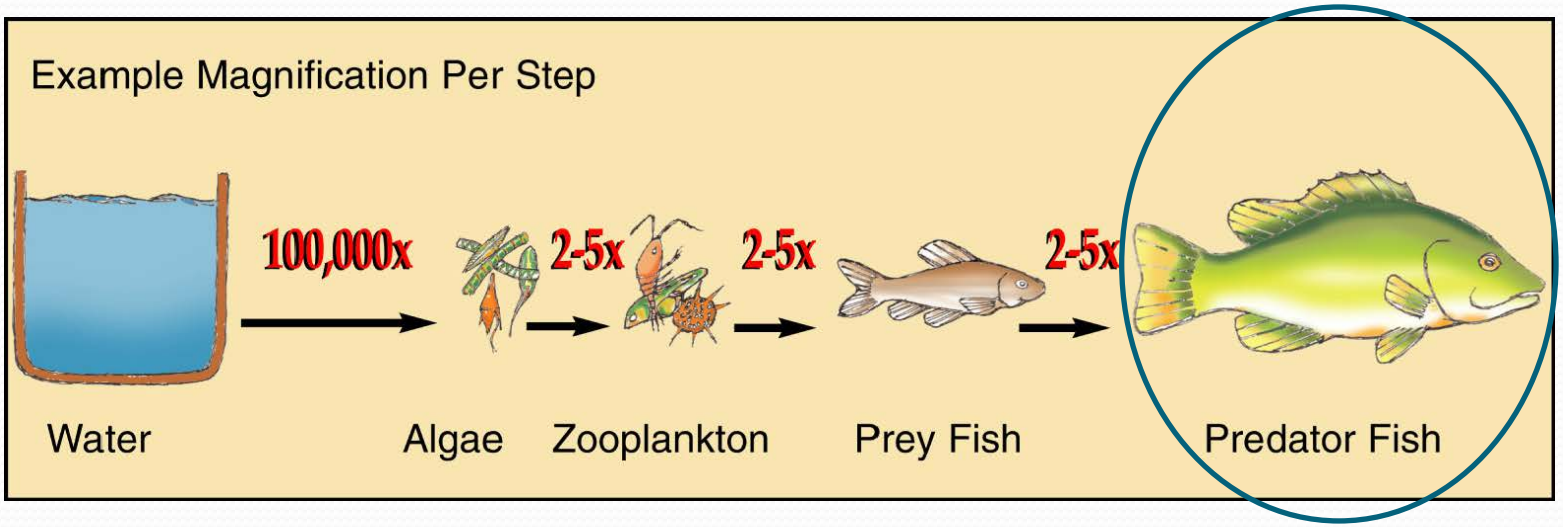


After

Reservoir Water Chemistry

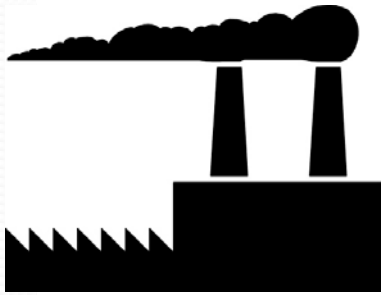


Mercury Bioaccumulation



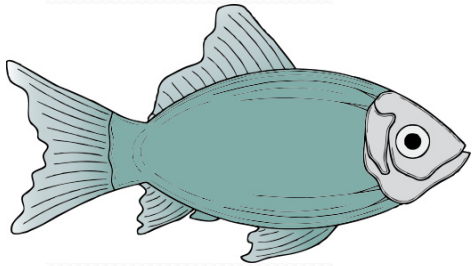
Mercury Control Actions

Pollution



Water Chemistry

Fisheries



Protect People

Key Actions in Phase 1

- Reservoirs: pilot tests
- Mine sites:
  - ID highest priority sites
  - Cleanup
- Exposure reduction: protect human health
- Atmospheric deposition: monitor

Other Actions in Phase 1

- Urban runoff (stormwater)
  - Monitor methylmercury
  - Earth-moving – historical mines
- Municipal and industrial discharges (wastewater)
- Dredging and earth-moving downstream of mines

Program Review

- Adaptive management

Schedule

Draft Statewide Plan amendment and supporting documents	Summer 2016
Scientific Peer Review	Summer 2016
Revised draft amendment	Fall 2016
Formal review and comments	Winter 2017
State Water Board action	Spring 2017

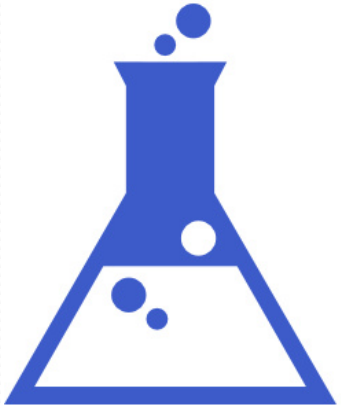
Clarifying Questions?

Agenda

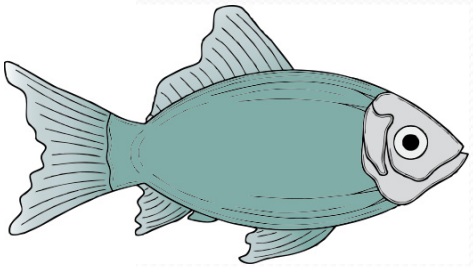
Topics for Discussion

Mercury Control Actions

Water Chemistry



Fisheries



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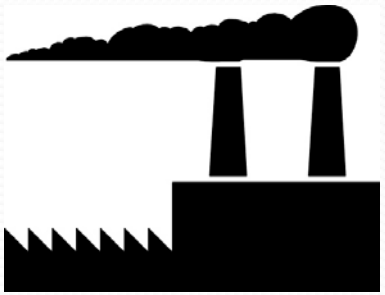
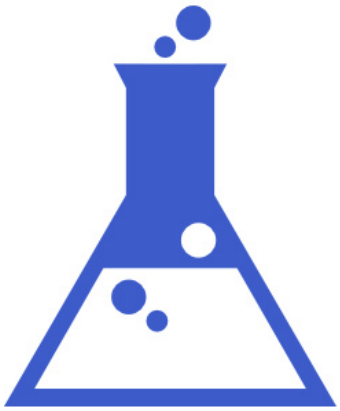


Protect People

Key Actions:
Reservoir Pilot Tests

Water Chemistry



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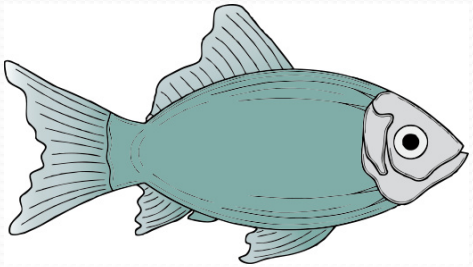

Key Actions: Mine Sites

- Mine sites:
  - Cleanup
  - Highest priority sites
    - Significant discharges of mercury
    - Elevated mercury in reservoir sediment
    - Mines localized and adjacent to reservoir

Key Actions: Protect People

- Post warning signs
- Size “slot” limits
- Public outreach and education

Key Actions: Atmospheric Deposition

- California has reduced mercury emissions >50% since 2001
- Monitor and model atmospheric deposition

Urban runoff (stormwater)

- Urban runoff from
  - Highly urbanized areas
  - Upstream of reservoirs
  - Monitor methylmercury

Urban runoff (stormwater)

- Urban runoff upstream of reservoirs
  - Earth-moving projects in areas of historical mines
  - Employ erosion and sediment controls

Municipal and industrial discharges (wastewater)

- NPDES-permitted facilities
  - Waste load allocations for total mercury to be included in NPDES permits
  - Monitor total mercury in effluent
  - Large dischargers monitor methylmercury in effluent

Dredging and earth-moving

- Projects in reservoirs and creek channels
- Water Board issues permits
  - Downstream of mine sites
  - Prevent mercury discharge

Program Review

- Adaptive management