

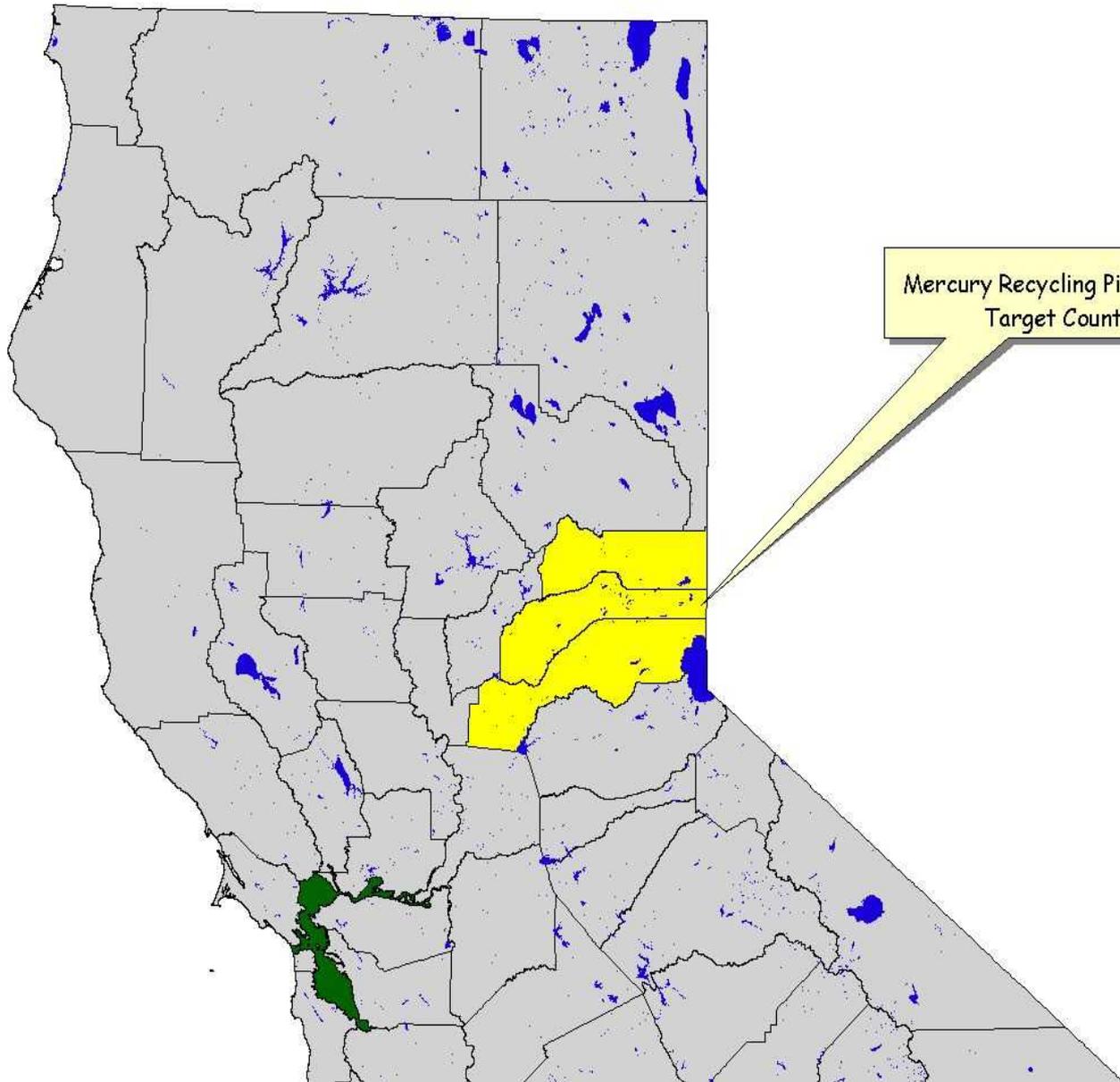
Mercury Recycling Pilot Project

- Conceived in 1994.
- Goal: To remove mercury from California's rivers and streams.
- Targeted Recreational Gold Miners (Suction Dredgers)



Recreational Gold Mining (Suction Dredging)





Mercury Recycling Pilot Project
Target Counties

Mercury in California's History



- Mercury used during the Gold Rush.
- Mined in the Coast Range, used in the Sierra Nevada.
- An estimated 20 million pounds used.
- Used at “Hardrock” mines

Mercury in California's History

- Used at “hydraulic gold mines”.
- Much of the 20 million pounds used was lost.
- Now mercury bioaccumulates in the foodchain.



Impetus for an Idea

- Recreational gold miners including suction dredgers find mercury with gold in Sierra Watersheds.
- In 1994 a suction dredger was allegedly fined for turning in more mercury than regulations allowed.
- State Water Resources Control Board staff and suction dredgers hit on an idea: a mercury recycling program.

It was a great “win, win” idea in 1994

- Idea: A multi-thousand man, volunteer workforce would remove mercury from watersheds year in and year out.
- Suction dredgers would improve their poor environmental image.
- However, regulations would need changing.
- Agencies were reluctant.
- Nothing happened.

In 1998, the Regulatory Climate Changed



- Proactive projects viewed favorably.
- Combined state, federal, and local projects viewed favorably.
- Regulatory barriers fell.

Mercury Recycling 2000

- State Agencies (SWRCB and DTSC) and federal (U.S.EPA, USFS and BLM) agencies develop the “House Call” plan.
- Nevada County agreed to take bulk mercury at their Household Hazardous Waste Event if agencies assist with cost.
- A variance for mercury handling was issued by DTSC to the State Water Resources Control Board August 7, 2000.

House Calls

- USFS, SWRCB, and BLM teams begin House Calls on Aug. 8, 2000.
- Teams collected 140 pounds of mercury the first day.
- Suction dredgers initially visited did not donate but instead wanted to buy mercury



House Calls - transfers



House Calls - deliveries



- Teams delivered mercury to the Polar Star Miner CERCLA site for shipment.
- 210 pounds of mercury were recycled September 2000.

House Call Donors

- Many donors revealed mercury sources even though it was a “Don’t ask don’t tell program”.
- Main sources were closed commercial gold mines, unused dental mercury, and mercury scavenged from switches and laboratory equipment.
- Most mercury had been stored in donor’s garages for a long time.
- Some donors had “inherited” mercury from their parents (e.g., retired dentists) while others found it in basements of recently purchased historic homes in Grass Valley and Nevada City.

Nevada County's Household Hazardous Waste Day



- Held during the initial “House Call” effort.
- USFS and BLM assisted with costs.
- Publicized well by Nevada County.
- Nevada County is a popular recreational gold mining area.

Household Mercury



- Mercury sources were similar to those reported during the house calls.
- The County collected about 30 pounds.
- Additional cost - \$1,300

Household Mercury Donors

- Donors said they had problems trying to discard mercury in the past.



Summary - I

- Collected a lot of mercury for little money (>400 pounds to date).
- Identified a previously unrecognized new donor group (older people who had collected mercury because they thought it might have value someday).
- The new group likely has a finite amount of stored mercury.
- Donors of unused dental mercury, and mercury scavenged from switches and laboratory equipment are probably not limited to recreational gold mining areas in the state.

Summary - II

- Targeted donor group during the initial collection effort - suction dredgers – were not the primary donors.
- Extensive outreach had been performed, and they were really interested in 1994.

Follow up efforts

- Local Household Hazardous Waste collection programs began and continue to accept elemental mercury.
- In 2007 suction dredgers again stated they needed help getting rid of mercury they collect during Department of Fish and Game and State Water Board Public meeting on suction dredging.
- In response, the State Water Resources Control Board posts information about mercury on its web site.

Conclusions

- In terms of collecting mercury, the project was a success.
- Traditional mercury collection efforts have focused on small items, e.g., mercury-filled thermometers.
- 400 pounds of mercury collected by this project would fill more than 1.8 million thermometers.