



PART I: THE PROBLEM

Reclaiming the Sierra

The Sierra Fund's Initiative to Address Historic Mining Impacts

www.reclaimingthesierra.org

150 years ago...

150 years ago California's rivers and streams were dammed and thousands of miles of ditches were built to channel water to hydraulic mines that used water to blow down the mountains looking for gold.

The Sacramento River Delta became so clogged with the mining debris deluged from upstream that the city of Sacramento flooded repeatedly, and the Delta's shipping channels and levees we are familiar with today had to be created to preserve passage up the river. A third of the San Francisco Bay's volume was filled with mining debris.

This debris was full of mercury. 26 million pounds of mercury were mined from California's coast ranges and transported to the Sierra Nevada to process gold, and between 10 and 13 million pounds of the toxic metal were lost during the gold mining process.

When the price of gold fell, mining companies just abandoned thousands of mines in the Sierra. Over time, the ditches and reservoirs were repurposed to become California's water supply and hydroelectric systems. But the mines were never cleaned up. Instead, our Gold Country towns, including schools, parks, and trails, were built on (and sometimes with) their toxic leavings.

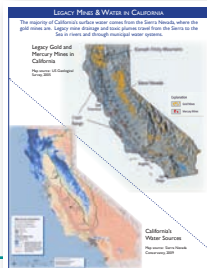
Today...

Today, the 47,000 abandoned mines in California continue to bleed mercury and other pollution into our water, fish and people. Legacy mining pollution affects every water and land management decision in the state, but received little attention or resources until The Sierra Fund began to advocate for this issue in 2006.

For supporting information, please see attachments:

- California Water & Legacy Mines Maps
- Strategic Mercury Cleanup Targets
- Mercury, Arsenic, Lead & Asbestos
- Mining Toxins Working Group Members
- About The Sierra Fund & Lead Staff

Also at: www.reclaimingthesierra.org



Snapshot: Malakoff Diggins



Malakoff Diggins Hydraulic Mine, Nevada County, California, ca. 1880s. *The original form of mountain top removal mining was born during the California Gold Rush. These mines, of which there are thousands, never saw environmental review, or any form of cleanup. They devastated California's downstream environment in the 1800s, and continue to pollute our precious water today, from the Sierra to the Sea.*



Drainage from Malakoff Diggins entering the South Yuba River, 2011. *Today, California State Parks (the current landowner of Malakoff Diggins) must pay a discharger's fee every time it rains due to the mine's continued impact on water quality. Malakoff Diggins is a hot spot for mercury pollution that still flows into California's waters. But even more than that, it is a hot opportunity for collaboration among the agencies and organizations that need to create a solution to these problems statewide.*



PART II: SOLUTIONS

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Since 2006...

Since 2006, The Sierra Fund has been working to describe how legacy mining still affects California, and to bring resources and strategic direction to address these century-old problems.

Our work on these issues in 2014 will be directed into **six distinct programs**, and towards two overarching goals:

- 1. Prevent exposure** of Sierra residents and downstream communities to environmental health hazards including mercury, arsenic, lead and other toxins. Our work towards this goal includes education, original research, and advocacy to make more information publically available.
- 2. Clean up legacy mining toxins at their source**, so future Californians are no longer affected by this legacy pollution. We work towards this goal through pilot projects, identification of best practices for cleanup, and advocacy for increased assessment, coordination and funding.

Malakoff Diggins

to demonstrate a coordinated, model mercury assessment and cleanup project

Health Outreach

to reduce public exposure to legacy mining pollution

E3 Gold Initiative

to increase private investment in cleanup



California Water Bond

to increase public funding for legacy mine cleanup

Mining Law Reform

to ensure high quality legacy mine reclamation

Working Group

to provide expertise and coordination for a building movement

Problems and Solutions

Significant investment in each of the following solutions is needed over the next year from visionary foundations and individuals.

Problem: Mercury levels are so high in certain California fish that state guidelines advise women and children to eat none of these species.



Solution: Educate healthcare professionals and the public about the presence of mercury, and which fish are safe to eat.

See: [Health Outreach Program](#)

See: [California Water Bond](#)

Problem: Legacy mercury pollution continues to drain from legacy mine sites in the headwaters of California's water supply.



Solution: Establish model assessment and cleanup protocols to prioritize sites, describe the problem, and stop ongoing pollution of habitat and water resources.

See: [Malakoff Diggins Project](#)

See: [Working Group](#)

Problem: Reservoirs are filling with mercury-laced sediment from legacy mines, significantly reducing their storage capacity.



Solution: New technology for reservoir maintenance to remove sediment and mercury, restore water storage capacity, and produce marketable gravel, sand and gold.

See: [Combie Reservoir Project](#)

See: [Working Group](#)

Problem: The mining companies that created this pollution and reaped the profit are long gone, and now private landowners, rural towns, state parks, and federal landowners are liable for the pollution but have little funding or expertise to address the problem.

Solution: Increase public funding available for legacy mine cleanup. Organize experts to advise on solutions. Incentivize private industry to clean up legacy pollution.

See: [California Water Bond](#)

See: [Working Group](#)

See: [E3 Gold Initiative](#)

