

Report: "Mining's Toxic Legacy: An Initiative to Address Mining Toxins in the Sierra" Released Today

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By: The Sierra Fund

The California State Assembly has scheduled hearings to examine the long term impact of the Gold Rush on public lands and waters of the state, to be held on Tuesday, March 4, 2008 in Room 4202 at 9:00am. This joint hearing is convened by three Committees of the Assembly, including the Water, Parks & Wildlife Committee, Chair Assemblywoman Lois Wolk; Natural Resources Committee, Chair Assemblywoman Loni Hancock; and the Environmental Safety & Toxic Materials Committee, Chair Assemblyman Jared Huffman. All three committees hold lead jurisdiction over some aspect of this issue ranging from park funding to water board regulations and mapping efforts.

This will be the first hearing on the long term impacts of the Gold Rush on public lands ever held by the California State Assembly. The Gold Rush, which began in 1848 after the discovery of gold near Placerville, brought millions of people to California to seek their fortunes. Even after 150 years, the environmental impacts of historic mining techniques-such as hydraulic mining which blew down the sides of mountains, or hard rock mines that dug hundreds of miles of tunnel through rock-are only beginning to be measured and understood. This hearing will focus particularly on the impacts of mining on public lands and waters of the state.

Speakers at the hearing will include Elizabeth "Izzy" Martin presenting the results of The Sierra Fund's new report Mining's Toxic Legacy: An Initiative to Address Mining Toxins in the Sierra. Also speaking will be Don Ryberg, Chair of the Tsi-akim Maidu Tribe of Nevada City, the tribe that was at "ground zero" of the Gold Rush, as well as government scientists from federal, state and local agencies.

Is human health, water quality or the environment at risk from historic

mining toxins?

The Gold Rush changed California demographics as indigenous people were dislocated and mining towns appeared and disappeared across the Sierra Nevada Mountains. A less recognized consequence of the California Gold Rush was the massive environmental destruction that took place, which still plagues the Sierra today.

Working with partners from state, federal, and tribal governments as well as from the academic, health, and environmental communities, The Sierra Fund's report Mining's Toxic Legacy is the first comprehensive evaluation of what happened during the Gold Rush, including: the cultural, health, and environmental impacts of this era; the obstacles that lie in the way of addressing these impacts; and a strategic plan of action for cleaning up the Sierra Nevada, the headwaters for more than 60% of California's drinking water.

Mining the Mountains

Using techniques including placer, hard rock, and hydraulic mining, millions of tons of gold were extracted from the Sierra Nevada "Mother Lode" during the 19th and 20th centuries. Mining practices commonly included extensive use of mercury, millions of gallons of which still contaminate the landscape. Abandoned mines have left behind toxic pits and acid mine drainage. Naturally occurring minerals, including arsenic and asbestos, were disturbed, crushed, and distributed throughout the region as gravels for road construction. Much of the land impacted by these activities is now publicly owned by state, federal, and local governments.

Impacts of the Gold Rush

Cultural: The Gold Rush devastated the Native People in the region. Forced relocation, disease, and outright murder shattered their villages and tribes. Toxic materials that remain from this era isolate Native Californians from their traditional ceremonial activities such as fishing and collection of medicinal and ceremonial plants, continuing the devastation begun over a century ago.

Environmental: The Sierra Nevada provides more than 60% of the drinking water for the state of California. Mercury, acid mine drainage, and other contaminated sediments left behind from mining threaten the water, plants, and people of the entire state. Elemental mercury remaining from historic gold mining is the primary source of mercury contamination in the Sacramento River, and flows downstream to pollute the San Francisco

Bay and Delta. Although the presence of mercury in the Bay and Delta is a significant issue, the impact of exposure on Sierra watersheds is unknown, for lack of studies.

Health: Mercury, arsenic, and asbestos are known to cause severe human health problems with continued exposure. Mercury contamination of fish has caused the State to issue warnings about fish consumption in Sierra water bodies that have been tested. Arsenic and asbestos, naturally occurring toxic materials crushed during the Gold Rush and left in huge tailings piles, have been found in dangerously high levels throughout the region and can be breathed in as dust particles when working or recreating in these areas.

Despite the extensive evidence of potential exposure to these many toxins, human health studies have never been done in the Sierra Nevada to learn if there are health impacts due to this exposure. A survey of thirteen health clinics throughout the Gold Country documented that none of these clinics currently collect environmental health histories from their patients or provide information about mercury contamination of fish as part of their maternal health program, even though many serve areas where there are recently adopted advisories to limit fish consumption.

The government is the largest landowner in the Sierra Nevada, and many of the lands affected are owned by public agencies. However, the state and federal governments have not established a clear plan for assessing and addressing the many problems associated with the impact of gold mining on public land. Ineffective communication among state, federal, and local agencies regarding remediation efforts and techniques makes proper remediation difficult. Public land managers such as regional Forest Service offices and BLM field offices are faced with costly environmental cleanup actions on severely limited budgets.

There are no incentives for private land cleanup, and regulations regarding cleanup are not consistent or understandable. General Mining Law enables current mining operations to continue to operate without reclamation plans that are specific to mitigation addressing legacy mining waste. Some policies need closer examination:

- Regulations on suction dredging are outdated. New studies indicate that suction dredging has the potential to spread mercury in the environment in highly mobile and highly reactive forms.

- Reservoir management may aggravate mercury mobilization and reactivity. Accumulation of sediment contaminated with mercury behind reservoirs requires dredging out this excess material to maintain water

storage capacity. Dangers associated with this procedure include re-suspending and re-mobilizing toxins and increasing mercury methylation.

- Mine tailings and materials left over from reservoir dredging are not tested for arsenic or other heavy metals before being sold for aggregate, even though many of the materials dredged from reservoirs or left over from mining are known to be contaminated. The use of local aggregate fill is not effectively regulated for arsenic, mercury, and other contaminants.

Wetlands restoration and reservoir management need to reflect mercury methylation concerns. Materials dredged from reservoirs that may contain toxins need to be carefully monitored. Hazardous materials recovered from cleanups need to be carefully disposed.

Regulatory actions should be adopted to implement provisions of the Clean Water Act applicable to instream suction dredging and its impacts on mercury. The Clean Water Act needs to be reformed to make it easier to conduct cleanup activities.

The Federal 1872 Mining Act needs to be reformed to require meaningful mitigation of cultural and environmental impacts from both modern-day and historic mining. Good Samaritan laws must be reformed to provide incentives for cleanup. The California Surface Mining and Reclamation Act needs to be strengthened to require minimum verifiable standards for reclamation.

A Call to Action

After nearly two years of effort to build relationships among new constituencies, this Initiative has laid the foundation to bring to light this long-neglected issue. The time has come for the state of California and the nation to recognize and remediate the lasting impact of California's Gold Rush.

Editor's note: The full report is available on the Sierra Fund's website.