

Appendix F. Abandoned Mines and Suction Dredge Mining

The Water Boards have several programs under which discharges from mines can be regulated, described in Section 6.9. This appendix contains information on other program related to 1) abandoned mines and 2) suction dredge mining.

F.1 Abandoned Mines Programs

California has an estimated 47,000 abandoned mines, about half of which include gold, silver or mercury mines (Marsh 2014, Department of Conservation 2013). Mercury was historically used in the extraction of gold and silver from rock and sand and was commonly either spilled or improperly disposed of around gold and silver mines. The Office of Mine Reclamation at the California Department of Conservation is a major state agency involved in addressing these mines. Many other agencies can be responsible for mine remediation projects or involved in such projects, including State Mining and Geology Board, California Geological Survey, Department of Toxic Substances Control, California State Lands Commission, Bureau of Land Management, Mine Safety and Health Administration, Office of Surface Mining, U.S. Environmental Protection Agency, U.S. Forest Service, U.S. Geological Survey, U.S. Army Corps of Engineers, National Parks Service, State Parks, the Water Boards, Counties, tribes, and community groups such as the Sierra Nevada Conservancy or the Sierra Fund.

The California Abandoned Mine Lands Agency Group (CAMLAG) was formed to coordinate the efforts of the many agencies involved. These agencies deal with a broad range of concerns associated with abandoned mines. Many mines pose a physical hazard with open pits and shafts that can result in death or serious injury. In addition to mercury, Acid mine drainage and arsenic contamination are other water quality concerns.

F.2 Moratorium on Suction Dredge Mining in California

The California Department of Fish and Wildlife (CDFW) was the main agency regulating suction dredge mining since the 1980's, issuing permits for the activity. Lawsuits concerning possible negative effects of suction dredge mining and the disturbed sediments on salmonid fisheries prompted revisions to the regulations. CDFW was not able to finalize new regulations by the deadline, so the state legislature established a moratorium to prohibit suction dredge mining in 2009 (SB 670).

The State Water Board wrote a letter to the Office of Administrative Law supporting this moratorium dated June 20, 2013. The Water Boards and U.S. Geological Survey investigations have found that although suction dredge mining can remove much of the mercury from sediments, mercury is remobilized by the activity exacerbating the hazard (Humphreys 2005, Fleck et al. 2011, Marvin-DiPasquale et al. 2011).

The legislature extended the moratorium on suction dredge mining indefinitely (AB 120 and SB 1018), until CDFW establishes a permit system that fully mitigates all identified significant environmental impacts identified in its *Final Subsequent Environmental Impact Report (EIR)* and a fee system to cover the regulatory costs of its suction dredge permitting program. For more details see the State Water Board website on suction dredge mining with links to CDFW website: www.waterboards.ca.gov/water_issues/programs/cwa401/suction_dredge.shtml.

On February 27, 2015, SB 637 was introduced in the state legislature which will amend the state water code to require Waste Discharge Requirements (permits from the Water Boards) for suction dredge mining and related mining activities. On October 11, 2015 this bill was signed into law. This bill requires, the State Water Resources Control board to establish a permitting process for suction dredge mining and related mining activities in rivers and streams in the state by July 1, 2017

(https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB637).

If the State Water Board develops a permit for suction dredge mining, any such permits should consider prohibiting suction dredge mining in mercury impaired waters or up stream of impaired waters. For example, in 2013, the Oregon Department of Environmental Quality renewed a permit in which suction dredging is prohibited on any stream segment that is listed as water quality limited for sediment, turbidity, or toxics, including mercury. Suction dredging is also not allowed in state scenic waterways, on or adjacent to tribal lands (Oregon Department of Environmental Quality 2014). Also in certain waters a moratorium on suction dredge mining will go into effect in 2016 pursuant to Section 2 of SB 838 (Oregon Department of Environmental Quality 2015). The moratorium prohibits dredging in all streams above the lowest extent of spawning habitat in rivers and tributaries containing Essential Salmon Habitat or naturally reproducing populations of bull trout. The Oregon moratorium also prohibits dredging in upland areas within 100 yards of these streams if the mining results in the removal or disturbance of vegetation in a manner that may affect water quality.

A recent detailed analysis of waters in the Sierra Nevada Mountains has been conducted to predict which rivers and streams have fish with elevated mercury from legacy mercury in the streams (Alpers et al. 2016).

References

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