

# Improving California's Response to the Environmental and Safety Hazards Caused by Abandoned Mines



Presented to:

**Delta Tributaries Mercury Council**

Frank Jimenez and Eunice Roh

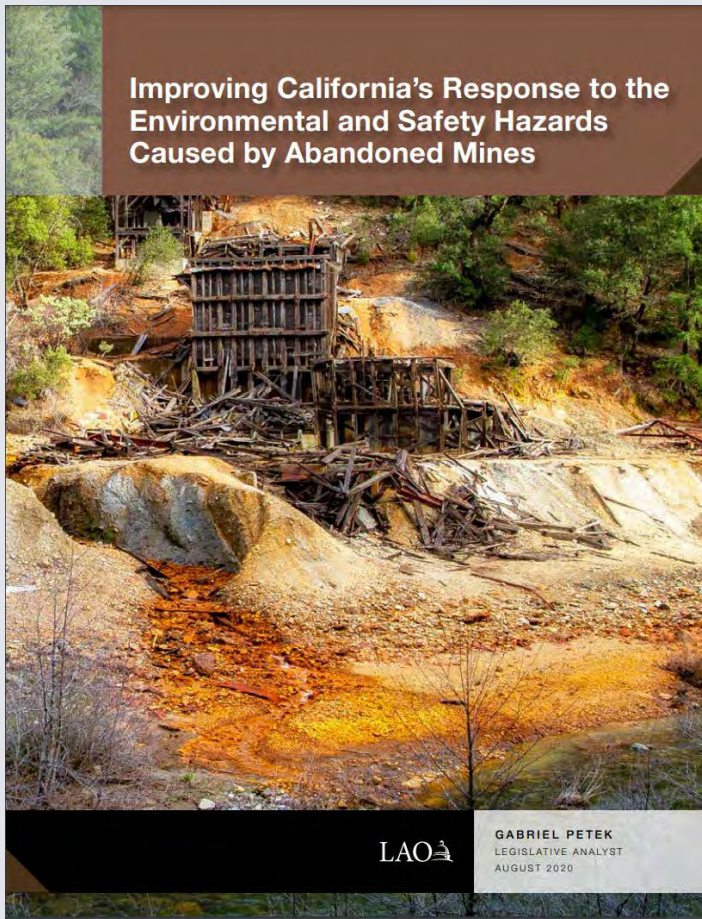
**Legislative Analyst's Office**

# Introduction

- The Legislative Analyst's Office (LAO) provides **nonpartisan fiscal and policy advice** to the Legislature.
- The office serves as the "eyes and ears" for the Legislature to ensure that the executive branch is implementing legislative policy in a cost efficient and effective manner.



# Introduction



- **Report written by Shawn Martin**
- **DTSC – Frank Jimenez**
- **DOC – Eunice Roh**

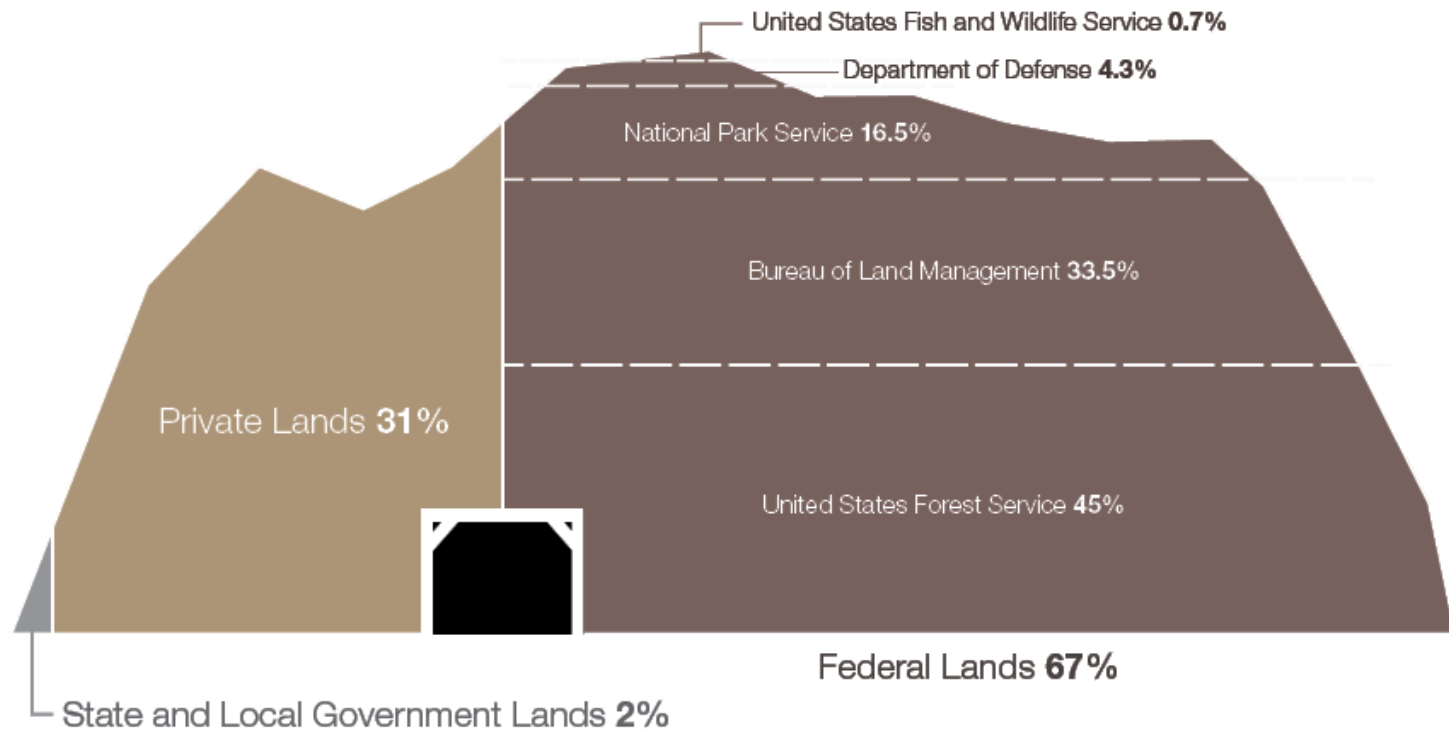
# Background

# Brief History of Mining in California

- **Gold Rush led to a major increase in mining in California.**
- **State and federal mining regulation were implemented in the 1970s.**
- **About 47,000 abandoned mine lands (AMLs) across the state remain.**

Figure 2

## California's Abandoned Mines Are Mainly Located on Federal Lands



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# Some Abandoned Mines Can Cause Environmental Contamination

## ➤ Water

### Contamination

- Acid mine drainage
- Metal contamination
- Sedimentation
- Mercury poisoning

## ➤ Air Pollution



# Abandoned Mines Are Often Physical Hazards



- **Every year, people are injured or die when they explore AMLs.**
- **About 84 percent of AMLs in California likely include features that could pose a threat to human life.**



# Addressing AML Issues Often Requires Coordination Across Multiple Agencies

	Land Management	Environmental Regulation	Site Remediation	Technical Support and Other Functions
<b>State Agencies</b>				
Department of Conservation		✓	✓	✓
Department of Fish and Wildlife	✓	✓	✓	✓
Department of Parks and Recreation	✓		✓	
Department of Toxic Substances Control		✓	✓	✓
Sierra Nevada Conservancy				✓
State Lands Commission	✓		✓	
State Water Resources Control Board		✓	✓	✓
<b>Federal Agencies</b>				
Bureau of Land Management	✓		✓	
National Oceanic and Atmospheric Administration				✓
National Park Service	✓			
United States Army Corps of Engineers			✓	✓
United States Environmental Protection Agency		✓	✓	✓
United States Fish and Wildlife Service	✓		✓	
United States Forest Service	✓		✓	
United States Geological Service				✓
<b>Local Government Agencies and Academic Institutions</b>				
Nevada County	✓			
Placer County	✓			
Sacramento County	✓			
California State University, Chico				✓
California State University, Sacramento				✓
University of California, Davis				✓

# Environmental Remediation

- **Largest, most complex site remediation projects are under the Superfund program, led by the U.S. EPA.**
- **Most remediation projects are administered by state agencies—DTSC and SWRCB.**



Department of Conservation staff assesses an unmarked mine shaft.  
Photo courtesy of the California Department of Conservation. LAO

# Remediation of Physical Safety Hazards



- **Department of Conservation’s Abandoned Mine Lands Program inventories and assesses AMLs for physical safety hazards.**
- **State takes the lead on coordinating projects to remediate physical safety hazards.**

# **Key Challenges to Systematically Remediating AMLs**

# Remediation of Many AMLs Still Needed

- **30,000 mines still need to be inventoried.**
- **Tens of thousands are in need of remediation of physical safety hazards.**
- **Few thousands are in need of initial or further assessment to determine whether they are sources of environmental contamination.**

# Lack of a Centralized, Coordinated Approach Hinders Progress

- **Agencies prioritize remediation projects differently.**
- **Project coordination occurs on an as-needed and voluntary basis.**
- **Coordination is complicated by ownership issues.**
  - Private land
  - Two or more properties with different owners



# Costly to Remediate Environmental Impacts and Physical Safety Hazards

- **Total state costs to remediate environmental impacts and physical hazards could total billions of dollars or more.**
- **Limited state funding is available for remediation.**
- **Current funding levels leave tens of thousands of potential physical safety hazards unaddressed.**

# Recommendations

# Designate Lead Agency to Coordinate Remediation Efforts

## ➤ **Lead Agency Responsibilities**

- Prioritize AML remediation projects on a statewide basis.
- Coordinate with federal land management agencies.

## ➤ **Potential Improvements**

- Better coordinate and facilitate long-term planning.
- Ensure efficient use of limited state and federal resources for remediating AMLs.

# Require Lead Agency to Develop a Statewide Strategic Plan

## ➤ **Lead Agency Responsibilities**

- Develop a statewide strategic plan to address AMLs.
- Strategic plan should (1) be updated at least once every five years, (2) establish specific goals and measureable objectives, and (3) prioritize projects.

## ➤ **Potential Improvements**

- Encourage a more systematic statewide approach to project selection.
- Ensure limited resources are targeted to most critical projects.
- Facilitate long-term planning and interagency cooperation.
- Provide up-to-date source of data to inform funding decisions.

# Establish State Fund to Support AML Remediation

## ➤ **New State Fund**

- New fund would be established within lead agency, which would propose AML remediation projects based on strategic plan.
- Supported by both existing revenue sources, as well as future state bonds, federal allocations, and General Fund.
- Potentially supported by charge on active mining operation in the state.

## ➤ **Potential Improvements**

- Provide dedicated ongoing funding source to address AMLs.
- Leverage additional federal funds.





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