

Reclaiming the Sierra



**A CONFERENCE TO CATALYZE ACTION AROUND A REGIONAL STRATEGY
TO ABATE THE IMPACTS OF MERCURY - *from the Sierra to sea.***

October 16-18, 2019 • Grass Valley, CA



Presented by The Sierra Fund • www.reclaimingthesierra.org

COLLEAGUES, FRIENDS, AND NEIGHBORS

Welcome to the Sierra.

It is a pleasure to be convening the fifth biennial *Reclaiming the Sierra* Conference to address the legacy of the 19th century Gold Rush on California's headwaters.

Over the last decade, The Sierra Fund has built a body of research and a cohort of scientists and leaders who are dedicated to developing best-practices using cutting-edge science as we work to restore and protect the resiliency of our State from the impacts of the Gold Rush. Our approach has grown from the ground up, from community need to a regional strategy thirteen years in the making. We have successfully leveraged over \$3.5 million in foundation funding to secure nearly \$4 million in government grants directly supporting our work and over \$20 million supporting the work of our regional partners.

We would not be here without you.

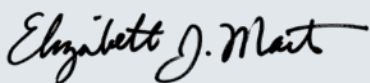
Through on-the-ground pilot projects, data collection, and tireless inquiry we have changed the framework of understanding about Gold Rush impacts. We now know that mercury, imported to the Sierra Nevada to improve gold recovery during processing, is pervasive and persistent from the headwaters to the San Francisco Bay-Delta over 160 years after the fact. We know that hundreds of hydraulic mines are tucked in our dense and overgrown forests and that these mines continue to release sediment and mercury every time it rains. We know that sediment and mercury are impacting water storage capacity and contaminating downstream reservoirs. And we know that our fish, as a result of this, are often too high in mercury for children, babies, and pregnant women to consume.

It is time to take action.

The Sierra Fund is here to lead a robust conversation about what strategic action looks like. We are excited to spend the next couple of days in the company of experts across a variety of disciplines discussing best-practices and best available technologies to address this critical problem.

Join us in taking strategic action to address headwater sources of mercury.

The benefits flow from the Sierra to the sea.



Elizabeth "Izzy" Martin,
Chief Executive Officer



Carrie Monohan, Ph.D.
Program Director





ABOUT THE CONFERENCE



RECLAIMING THE SIERRA (RTS) is a conference to catalyze action around The Sierra Fund's (TSF) Headwater Mercury Source Reduction (HMSR) Strategy – a vision of adaptive recovery for the environment and communities that are still blighted from the 19th century Gold Rush. The 2019 RTS conference leverages over a decade of research to understand the legacy of historic mining and brings together land managers, policy-makers and scientists to identify critical next steps in order to address the impacts of the Gold Rush and promote the resiliency of natural and human resources from the Sierra to the sea.

Four strategic targets to address headwater sources of mercury will be explored at the three-day RTS conference:



1. Hydraulic Mines and Mine Features



2. Mercury in Forest and Land Management



3. Mercury-Contaminated Sediment in Reservoirs



4. Mercury Exposure via Fish Consumption

Program at a Glance



Wednesday, October 16: *Art at the Edge of Extraction Reception*

5:30-6:00 pm	Registration Open
6:00-7:00 pm	Cocktails and Networking
7:00-7:30 pm	Art Program <i>An art exhibit to expand the discourse about the impacts of the California Gold Rush</i>
7:30-8:30 pm	Reception

Thursday, October 17: *Headwater Mercury Source Reduction Workshop*

8:00-9:00 am	Registration Open Coffee and Tea Served in Ballroom Sim Table Demonstrations
9:00-9:15 am	Welcome and Orientation Elizabeth “Izzy” Martin, CEO, The Sierra Fund
9:15-10:00 am	Keynote Dr. Jane Hightower, Author of “ <i>Diagnosis Mercury: Money, Politics and Poison</i> ” “ <i>Fish Mercury: Medical Literature Review</i> ”
10:00- 11:15 am	Panel 1: Hydraulic Mines and Mine Features
11:15 -11:30 am	Break
11:30 am-12:30 pm	Panel 2: Mercury in Forest and Land Management
12:30 -1:00 pm	Lunch Sim Table Demonstrations

Program at a Glance



1:00 -1:45 pm

Keynote

Bill Craven, *Senate Natural Resources and Water Committee*
“A Policy Framework for Addressing Mercury Source Reduction”

1:45 -3:00 pm

Panel 3: Mercury-Contaminated Sediment in Reservoirs

3:00-4:00 pm

Panel 4: Mercury Exposure via Fish Consumption

4:00-4:45 pm

Discussion: Opportunities for Collaboration Across Strategic Targets

4:45-5:00 pm

HMSR Resolution of Support

5:00-7:30 pm

Evening Reception

Pine Cone Awards- *An award to recognize regional conservation leaders*
Sim Table Demonstrations

Friday, October 18: *Mercury in the Headwaters Tour*

8:30-9:00 am

Meet at Gold Miner’s Inn, Load into Bus and Vans

9:30-10:15 am

STOP 1: Englebright Dam

10:30 am-12:00 pm

STOP 2: Blue Point Mine

12:30-1:30 pm

STOP 3: Sycamore Ranch (Catered Lunch)

1:30-2:30 pm

STOP 4: Hammon Grove Park

3:00-4:30 pm

STOP 5: Combie Reservoir

5:00 pm

Return to Gold Miner’s Inn

OPENING RECEPTION



ART AT THE EDGE OF EXTRACTION RECEPTION

Wednesday, October 16, 5:30- 8:30 pm



Greed, brutality, and brilliance reshaped the people, the culture, and the land of the Sierra Nevada. From genocide to environmental destruction, the raw display of how human ingenuity can pull gold from living earth humbles and awes – and inspires creativity across disciplines as communities work to restore ecosystem and community resiliency to a place of unsurpassed beauty and ecological value.

Art at the Edge of Extraction is an opportunity to experience painting, sculpture, photography, song, and written and spoken word of artists who aim to provoke audience contemplation and commentary on the effects of resource extraction. Featured works reflect on the splendor of forests and watersheds ravaged in the quest for gold, invite introspection about cultural resilience, and challenge our ability to connect abstract data to visual and figurative representations of watershed-wide impacts.

Art at the Edge of Extraction is The Sierra Fund's inaugural art event, aimed to expand the discourse about Gold Rush impacts and provoke community reflection on how the legacy of mining has shaped the land and people of the region. The 19th century Gold Rush forever changed the trajectory of what it means to live in California's headwaters.



FEATURED ARTISTS INCLUDE:

Franceska Alexander, Ruth Chase, Ashley Church, Shelly Covert, Jorie Emory, Jenny Hale, Graham Keeble, Alex Keeble-Toll, Lewis Paul Toll, San Juan Ridge Tapestry Project

GUESTS OF HONOR:

Malcolm Margolin, *Heyday Books, California Institute for Community, Arts, and Nature*
Shelly Covert, *Nevada City Rancheria, California Heritage: Indigenous Research Project*

KEYNOTE SPEAKERS



HEADWATER MERCURY SOURCE REDUCTION WORKSHOP

Thursday, October 17, 8:00 am- 7:30 pm

Jane Hightower, M.D., Author of “*Diagnosis Mercury: Money Politics and Poison*”
9:15- 10:00 am

“Fish Mercury: Medical Literature Review”



Dr. Hightower is notable for her landmark study on mercury levels in patients in her San Francisco practice, which was published in *Environmental Health Perspectives* in 2002 and led to the current FDA recommendations on fish consumption. In 2000, she developed a formula for estimating a patient's mercury level using dietary recall and known mercury levels in the fish consumed. This formula has been adopted by many organizations to help the public stay within the health guidelines for mercury. Certified through the American Board of Internal Medicine, Dr. Hightower has earned an undergraduate degree from California State University, Chico, and a Doctor of Medicine from the University of Illinois. With a deep knowledge in her field, Dr. Hightower authored “*Diagnosis Mercury: Money, Politics and Poison.*”



Bill Craven, Senate Natural Resources and Water Committee
1:00-1:40 pm

“A Policy Framework for Addressing Mercury Source Reduction”



Attorney William Craven is the chief consultant of the Senate Natural Resources and Water Committee. The Natural Resources and Water Committee is chaired by Senator Henry Stern, D-Canoga Park. The committee has jurisdiction over legislation such as water supply, flood policy, mining, oil and gas, forestry, state parks, coastal protection, and ocean policy, among other topics. Bill is the Senate's staff designee to the California Parks and Recreation Commission and the Ocean Protection Council.

WORKSHOP DETAILS



HEADWATER MERCURY SOURCE REDUCTION WORKSHOP

Thursday, October 17, 8:00 am- 7:30 pm

PANEL 1: HYDRAULIC MINES AND MINE FEATURES - 10:00-11:15 AM

Hydraulic mines and mine features include denuded landscapes prone to erosion and tunnels once used as sluices. These features continue to be sources of mercury-contaminated sediment to streams and rivers. Experts will discuss methods to inventory, rank and prioritize, and remediate mercury sources in the headwaters.

Panelists:

- Carrie Monohan, *The Sierra Fund*
- Charles Alpers, *United States Geological Survey*
- Allan James, *University of South Carolina*
- Willie Wittlesey, *Yuba Water Agency*
- Eli Ilano, *United States Forest Service, Tahoe National Forest*

PANEL 2: MERCURY IN FOREST AND LAND MANAGEMENT - 11:30 AM- 12:30 PM

Multi-benefit forest health projects include hydraulic mine remediation to reduce erosion of sediment and mercury from mine-scarred lands. The chemical and physical hazards associated with legacy hydraulic mines add a new dimension to traditional forest management practices. Experts will discuss federal land management objectives and how they interface with mercury fate and transport, forest health, and fuels reduction.

Panelists:

- Sue Britting, *Sierra Forest Legacy*
- Charles Alpers, *United States Geological Survey*
- Henry McCann, *Public Policy Institute of California*
- Eli Ilano, *United States Forest Service, Tahoe National Forest*

PANEL 3: MERCURY-CONTAMINATED SEDIMENT IN RESERVOIRS - 1:45 - 3:00 PM

Mercury-contaminated sediment transported off of hydraulic mines is captured behind reservoirs that need ongoing maintenance. Mercury-contaminated sediment can take up valuable water storage space in reservoirs and cause water quality impacts. Best available technologies to address reservoir sedimentation and remove mercury-contaminated sediment from reservoirs will be discussed and statewide applicability of approaches debated.

Panelists:

- Jacob Fleck, *United States Geological Survey*
- Greg Jones, *Nevada Irrigation District*
- Jason Muir, *NV5*
- Matt Meyers, *California Department of Water Resources*
- Stephen McCord, *McCord Environmental Inc. and Delta Tributaries Mercury Council*



HEADWATER MERCURY SOURCE REDUCTION WORKSHOP

Thursday, October 17, 8:00 am- 7:30 pm

PANEL 4: MERCURY EXPOSURE VIA FISH CONSUMPTION - 3:00 - 4:00 PM

Consumption of contaminated fish is the primary pathway of human exposure to the neurotoxin methylmercury. Agency toxicologists will explain impacts, and public health and policy experts will debate best approaches for risk communication.

Panelists:

- Lori Copan, *California Department of Public Health*
- Alex Keeble-Toll, *The Sierra Fund*
- Susan Klasing, *California Office of Environmental Health Hazard Assessment*
- Shannon McKinney, *Assembly Committee on Environmental Safety and Toxic Materials*

OPPORTUNITIES FOR COLLABORATION ACROSS STRATEGIC TARGETS - 4:00 - 4:45 PM

Join The Sierra Fund as we discuss the Headwater Mercury Source Reduction Strategy and opportunities for collaboration across the four strategic targets. The Strategy was developed in collaboration with TSF's HMSR Technical Advisory Committee and is supported by a wide range of conservation, government, and academic organizations.

RESOLUTION OF SUPPORT - 4:45-5:00 PM

Sign the Resolution of Support for the implementation of the HMSR Strategy, a living document intended to guide the protection and restoration of ecosystem and community resiliency that builds on over a decade of research, actions, and methods, providing a cohesive platform for technical experts to collaborate on reducing mercury discharge from Sierra to sea.

EVENING RECEPTION AND PINE CONE AWARDS - 5:15-7:30 PM

The HMSR Workshop will close with an Evening Reception- an opportunity to network and celebrate regional conservation leaders at the *Pine Cone Award Ceremony*. The Sierra Fund's Pine Cone Awards are presented annually to organizations, agencies or individuals demonstrating exceptional leadership and initiative in their work to address historic mining in California. Join as we congratulate the 2019

Pine Cone Awardees:

- Jim Branham, *Sierra Nevada Conservancy* (Retired)
- Becky Woods, *Teichert Materials* (Retired)

TOUR DETAILS



MERCURY IN THE HEADWATERS TOUR

Friday October 18, 9:00 am- 5:00 pm

A day-long excursion to explore headwater sources of mercury and discuss opportunities to restore ecosystem and community resiliency in the Yuba and Bear River watersheds.

TOUR AGENDA

TIME

LOCATION

8:30-9:00 am

Meet at Gold Miner's Inn- *Load into Bus and Vans*

9:30-10:15 am

STOP 1: Englebright Dam

Speaker:

Carrie Monohan, The Sierra Fund, *Hydraulic Mine Features: Debris Control Dams*

10:30 am- 12:00 pm

STOP 2: Blue Point Mine

Speakers:

Brian Bisnett, Blue Point Partners, *Blue Point Mine: Past, Present, and Future*

Elizabeth "Izzy" Martin, The Sierra Fund, *Due Diligence on Mine-Scarred Lands*

12:30-1:30 pm

Sycamore Ranch

Lunch and Networking

1:30-2:30 pm

Hammon Grove Park

Speakers:

Alex Keeble-Toll, The Sierra Fund, *Mercury-Contaminated Fish*

Carrie Monohan, The Sierra Fund, *Yuba Goldfields: Hydraulic Mine Debris: Barriers and Opportunities*

3:00-5:00 pm

Combie Reservoir

Speakers:

Carrie Monohan, The Sierra Fund, *Hydraulic Mines and Reservoir Sedimentation*

Greg Jones, Nevada Irrigation District, *Reservoir Maintenance: Removal of Mercury-Contaminated Sediment*

Nick Graham, The Sierra Fund, *Combie Reservoir Monitoring Plan*

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The Sierra Fund

Founded in 2001, The Sierra Fund (TSF) is a nonprofit dedicated to restoring ecosystem and community resiliency to the Sierra Nevada. Since 2006, TSF has worked to address the ongoing environmental, cultural and human health impacts of the 19th century Gold Rush. We support organizations and communities by increasing public and private funding, advocating for policy changes and bringing intellectual resources that build capacity to restore and protect the resiliency of California's headwaters.



**For more information,
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