



THE SIERRA FUND

# MALAKOFF DIGGINS STATE HISTORIC PARK

*A project to remediate a hydraulic mine site and beloved State Park*



*Hydraulic mining power washed away the auriferous gravels of ancient rivers and laced the gravels with liquid elemental mercury. The mercury left behind continues to bioaccumulate into our food web exposing humans and wildlife to a dangerous neurotoxin over 100 years later.*

## **BACKGROUND**

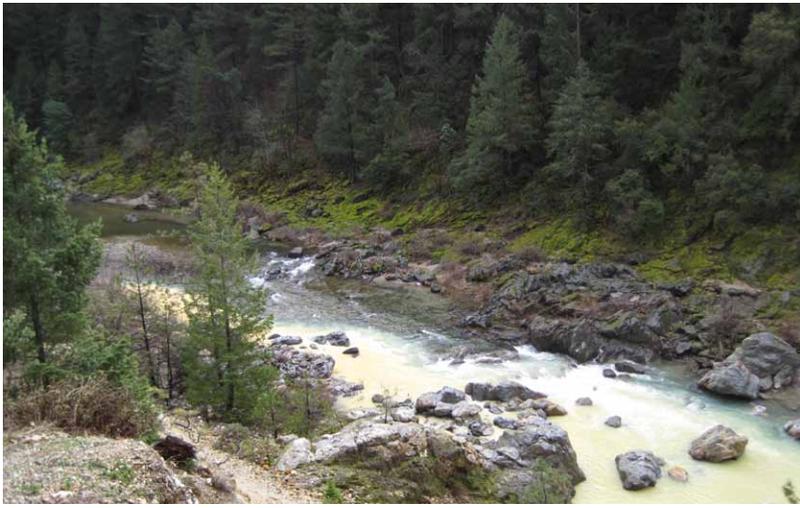
Since 2011, The Sierra Fund has been working to assess and address the ongoing water quality problem from the contaminated discharge of one of California's largest and most iconic hydraulic mines, Malakoff Diggins. The historic two mile by one mile hydraulic mine pit is the centerpiece of California's Malakoff Diggins State Historic Park, and on the National Register of Historic Places, and it discharges egregious levels of sediment and mercury every time it rains.

## **PROJECT**

In April 2015 The Sierra Fund published the findings of the first four years of work on this project in the Humbug Creek Watershed Assessment and Management Recommendations report. This report serves as the guiding document for an alternatives analysis being conducted by State Parks and its subcontractors to determine the best approach for site remediation.

## **IMPACT**

Hydraulic mine sites release sediment and mercury and are a significant predictive variable for fish mercury concentration in downstream water bodies. This project creates a model for scientific assessment and collaboration that can be replicated at similar sites across California. Success is measured as reduced sediment and mercury loads discharged to the Wild and Scenic Yuba River.

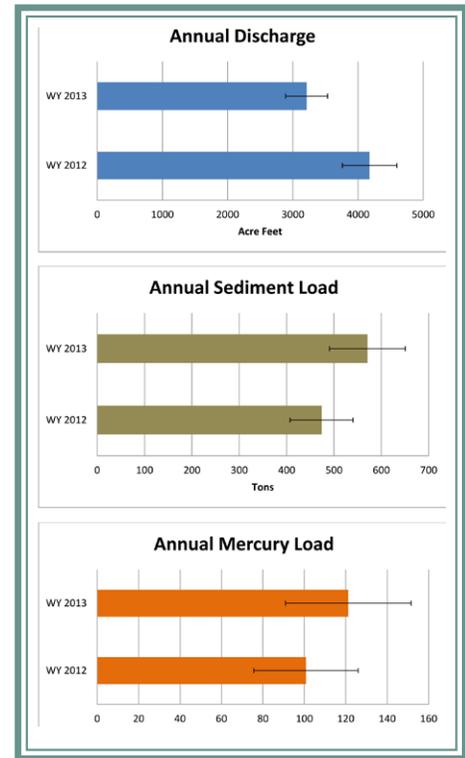


## NEXT STEPS

In 2018 Sierra Fund continues to participate in quarterly calls with State Parks and their subcontractors to coordinate and inform ongoing assessment efforts based on previous findings and lessons learned. Continues to maintain the longest operating stream gage at the site, measuring turbidity and discharge every 15 minutes year round. Critical to this project is the selection of alternatives that preserve and protect the cultural resources of the site while incorporating cutting edge solutions to address the ongoing water quality problem created by the hydraulic mine pit discharge to Humbug Creek and the South Yuba River.

## BY THE NUMBERS

**15 MINUTE DATA** for **7 WATER YEARS** at a stream gage on Humbug Creek. **500 TONS OF SUSPENDED SEDIMENT** discharged from Malakoff Diggings annually. **PARTICULATE BOUND MERCURY** is discharged from the hydraulic mine pit every time it rains. Successfully advocated for **8 MILLION DOLLARS** to State Parks for Malakoff Diggings.



Annual Discharge, Sediment Load, and Mercury Load on Humbug creek.

Source: The Sierra Fund

### PROJECT FUNDERS

*Past and present project funders include:* Sierra Nevada Conservancy, Department of Water Resources, Bella Vista Foundation, Teichert Foundation, Patagonia, the Joseph & Vera Long Foundation, and the Rose Foundation for Communities and the Environment.

