



THE SIERRA FUND

DEBRIS CONTROL DAM ASSESSMENT

Identifying, characterizing and prioritizing mining features



There are many legacy features left on the landscape from mining in the Sierra Nevada, these include; pits, tunnels and debris dams. To date there is no inventory of or comprehensive approach to address these features. Debris Control Dams warrant our immediate attention because of their unknown structural stability and role in holding back hydraulic mining debris.

BACKGROUND

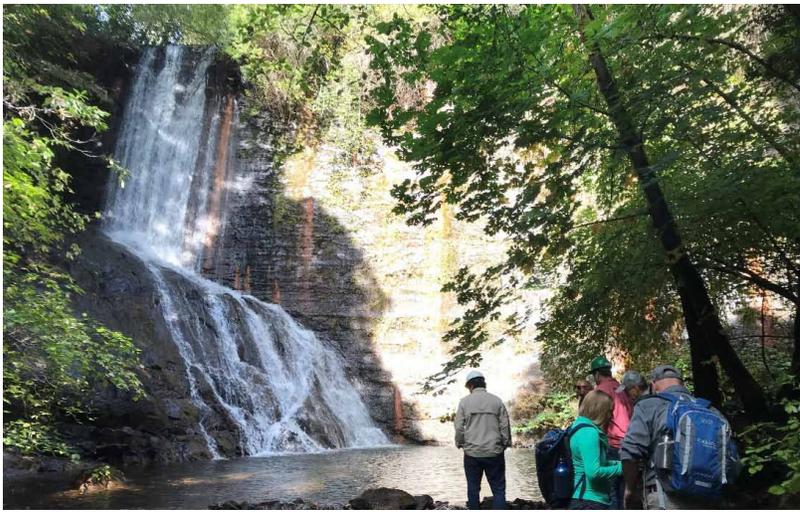
Hydraulic mining was permitted after 1893 only if sediments were captured and not allowed to reach “navigable waters”. This resulted in numerous debris dams being built across the headwaters in various ways; log cribs, rammed earth and concrete. Today the concrete dams persist and are of unknown structural stability. They range from 12ft to 55ft high and 50-250 ft long and are full of debris.

PROJECT

The Sierra Fund and our partners are conducting a two phased approach to address these features. The first phase is the identification and characterization of debris dams for an inventory of hydraulic mine features using LiDAR. The second phase is the prioritization, scoring and risk assessment to determine which dams should be remediated to protect downstream reaches.

IMPACT

Debris Control Dams (DCD) have long outlived their purpose, but continue to interrupt longitudinal connectivity of habitat, sediment and nutrient regime’s in the watersheds. DCDs are holding back hydraulic mining debris threatening downstream communities in the event of a dam failure. An inventory of hydraulic mine features is the first step to a comprehensive approach to address legacy features and restore continuity in the upper watersheds.

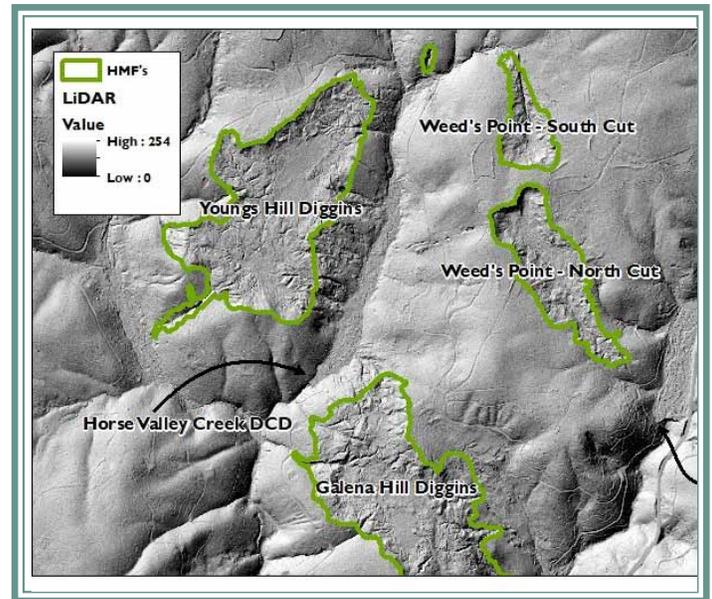


NEXT STEPS

The Sierra Fund is working to determine protocols for dam evaluation and monitoring existing water quality conditions. These manmade structures represent a unique opportunity to remove mercury contaminated sediment from the aquatic environment. TSF is working to identify funding for this work, by reaching out to federal, state, local, and private land owners. TSF will also develop materials describing these features, and the comprehensive approach for prioritizing hydraulic mine features.

BY THE NUMBERS

1.2 BILLION CUBIC YARDS OF SEDIMENT released by Hydraulic Mining. **13 CONCRETE DEBRIS CONTROL DAMS** in the California Debris Commission (CDC) records, **6 identified** on the Tahoe National Forest. At least **1 MILLION CUBIC YARDS OF HYDRAULIC MINING SEDIMENT BEHIND** behind Debris Control Dams in the Yuba.



LiDAR image of Willow Creek Sub-watershed
Source: Tahoe National Forest

PROJECT FUNDERS AND PARTNERS

Past and present project funders and partners include: Sierra Nevada Conservancy, Tahoe National Forest.

