

Truckee River Watershed Council
Collaborative solutions to protect, enhance and restore the Truckee River Watershed

Donner Basin Assessment


Truckee River Fund
June 3, 2016

Thank You to our Funders


- Community Foundation of Western Nevada, Truckee River Fund
- The Laird Norton Family Foundation
- Donors to the Truckee River Watershed Council





Natural Watershed Attributes




- Hydrology characterized by rain-on-snow events, spring snowmelt, and dry summers and falls
- Watershed naturally prone to high sediment yields due to glacial history and easily erodible soils
- Donner Lake a natural water body with a productive fishery
- Donner Creek mostly a meandering, wet-meadow floodplain system
- Lower Summit Creek a distributary floodplain system









Disturbances




- Logging, transportation, and land development impacted basin hydrology, sediment yields and water quality
- Donner Lake converted into a water supply reservoir, impacting habitat, shoreline and downstream flow regime
- Donner Creek and near-lake reaches of western tributaries realigned, channelized and disconnected from floodplains
- Significant habitat loss in residential and urban areas
- Aquatic invasive species









Current Conditions



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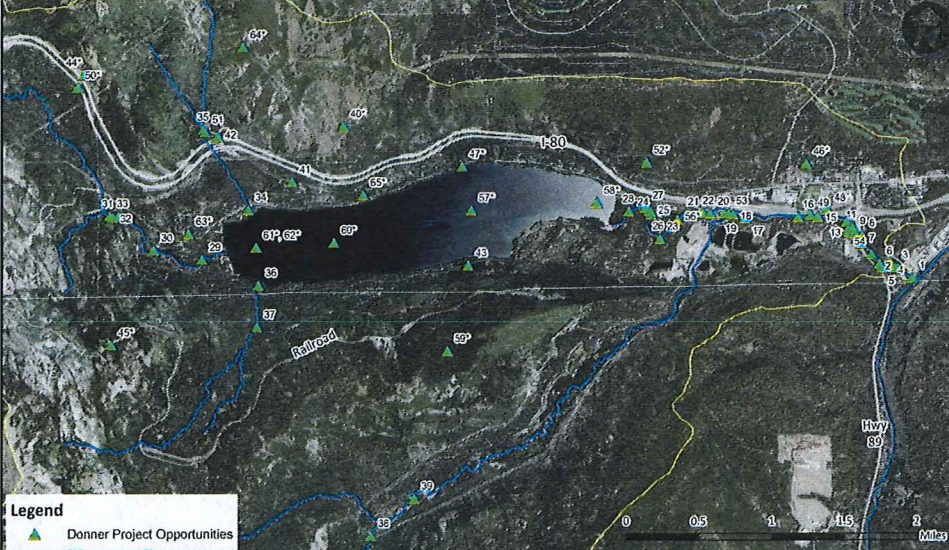
- Uplands exhibit altered runoff patterns and increased fine sediment loading
- Donner Lake reservoir management affects shorelines and alters Donner Creek flow regime
- Physical processes and riparian habitat along Donner Creek and near-lake reaches of western tributaries mostly limited to narrow, urbanized stream corridors
- Water quality impaired by arsenic, chlordane, PCBs, mercury and fine sediment



Over 70 Opportunities Identified




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Legend

▲ Donner Project Opportunities

An asterisk after the site number (e.g., 52*) indicates projects involving multiple or basin-wide locations



Bank Stabilization Downstream of RR Culvert





Issue: severe bank erosion due to culvert directing high velocity flows at right bank, resulting in significant fine sediment loading


Opportunity: stabilize site by re-profiling bank, installing eco-friendly bank protection, and planting native vegetation

Benefits: reduced fine sediment loading, improved riparian habitat

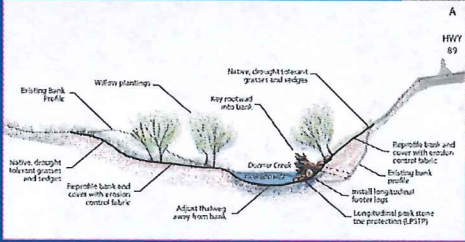
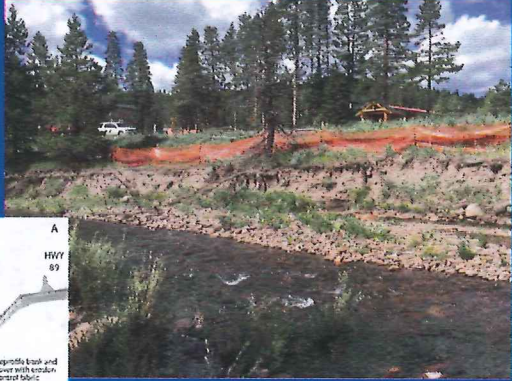
Bank Stabilization and Channel Enhancement Along Hwy 89





Issue: severe bank erosion, fine sediment loading; poor habitat quality


Opportunity: re-profile and re-vegetate right bank, set back left bank

Benefits: reduced fine sediment loading, improved riparian habitat

Stormwater Treatment Wetland Complex and Educational Site

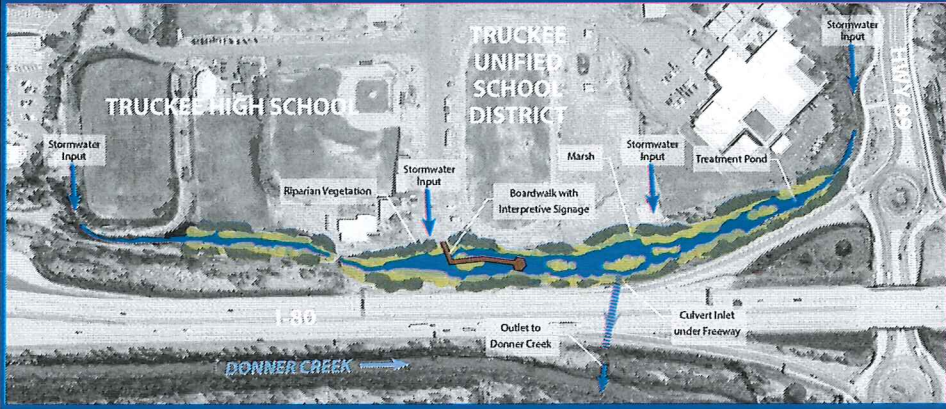




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Issue: stormwater runoff from west-bound I-80 and commercial development discharge untreated to Donner Creek

Opportunity: create stormwater treatment wetland complex and educational site between high school and I-80

Benefits: reduced pollutant loading from urban runoff




Donner Lake Opportunities



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- Create a comprehensive multi-agency recreation management plan
- Continue watercraft inspections for AIS at boat launches
- Stabilize eroding footpaths between road and public docks
- Conduct additional water quality and sediment loading monitoring
- Adjust reservoir operations for physical and ecological benefits
- Phase out 2-stroke engines



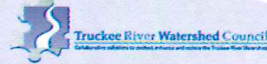



Next Steps

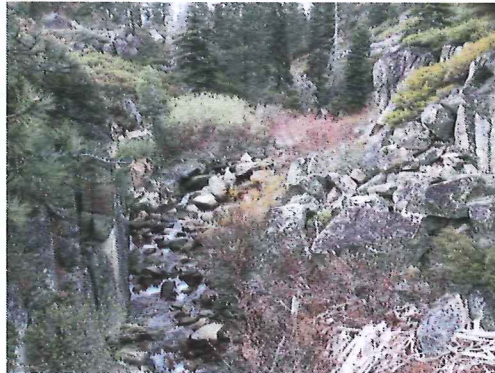
- Partner with stakeholders
- Look for funding
 - Downstream of RR culvert
 - Along 89
 - Wetland Complex



Photo: Sam Oramoto



Thank you!



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