

CARCD Conference Ventura, CA

Road Upgrades and Decommission TMDL Implementation in the Trinity River















Trinity County

Population 13,500 3200 Square miles, located between Humboldt to our west and Shasta to the east.

90% of county is public land, and the majority of the remaining private is managed by SPI Private timber holdings.

Trinity County RCD plays pivotal and unique role in cooperative projects on USFS/BLM due to large amount of land based managed by them in Trinity County.

Still the only county in California without a traffic light.

Major River: Wild and Scenic
Trinity River, largest tributary to
the Klamath River



Downtown Weaverville, Ca

Trinity County RCD

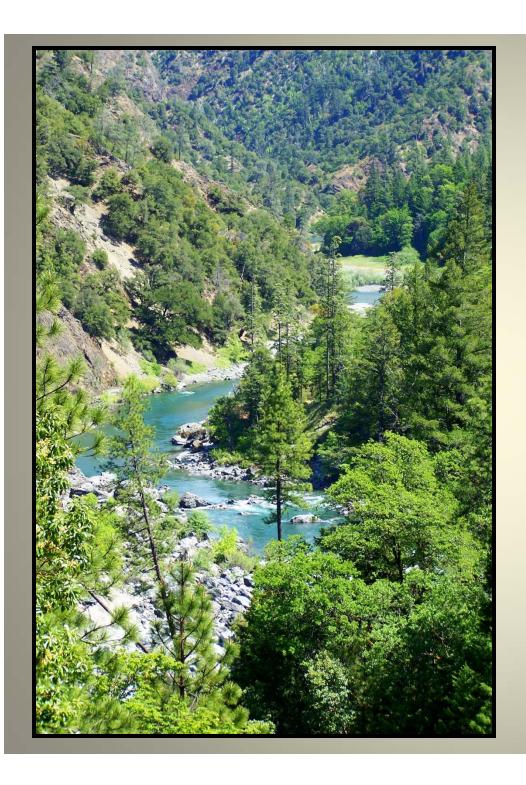
- Founded in 1956
- Currently about 20 regular employees

EMPHASIS

- Erosion/Sediment Control
- Forest Health/Fuels Reduction
 - Revegetation
- Stewardship Projects including the Weaverville Community Forest (USFS/BLM)
 - Private and Public Partnerships
 - Educational and Outreach



Wild and Scenic Mainstem Trinity River



South Fork of the Trinity River

Wild and Scenic Designated

Longest un-dammed tributary in the State

Total Daily Maximum Loads (TMDL)

Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. A Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.

Roads are the single largest contributor of controllable sediment to the Trinity River

South Fork TMDL (1998) and Trinity River TMDL (2001)

















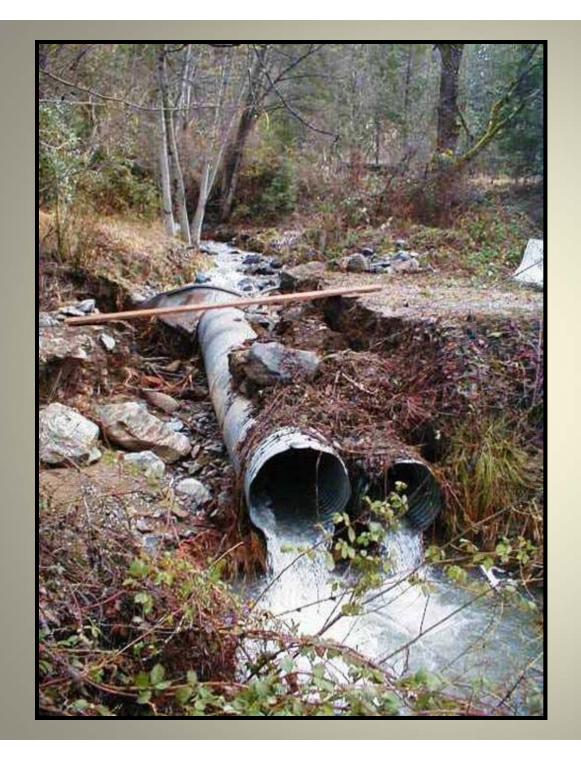




Road Upgrades and Storm-proofing

Goal: To reduce sediment delivery to watercourses

- •Upsize undersized culverts to meet 100-yr Flood flow event.
 - •Eliminate Diversion Potential at all stream crossings.
 - •Disconnect inboard ditches and road surface erosion from stream crossings where feasible.



Upsize undersized culverts to meet 100-yr Flood flow event.



Eliminate Diversion Potential at all stream crossings



Disconnect ditches and road surface erosion from streams

China Gulch Road Improvement Project









China Gulch Culvert Replacement (2013)

- Private road which required closure for one day to install culvert
- Undersized 30" Mining pipe
- •Headwall height limited our pipe size and so we used a vented ford design with a 48" Pipe Arch aka a Squash Pipe
- Fish barrier
- Stream crossing volume 100 cubic yards





























High flow in 2013

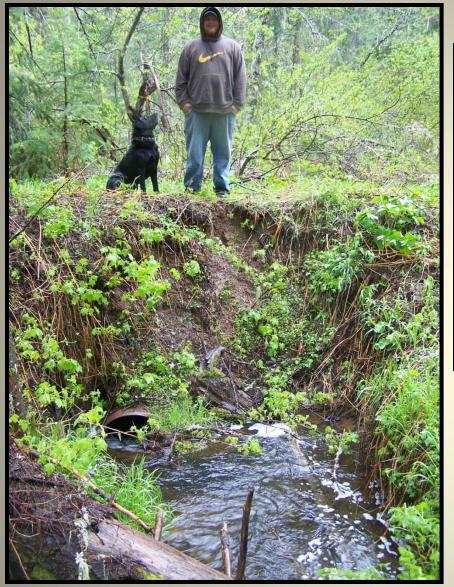
Road Decommissioning

Goal: To reduce sediment delivery to watercourses and improve habitat.

•Eliminates all risks of road-related failures that could deliver sediment to streams, if you do a good job getting to the bottom of your natural channel during excavation.

Goods Creek (2014) Background Issues

- Live stream during excavation
- Abandoned USFS road
- •Undersized 24" culvert, with chronic plugging issues
- •4' drop over the 50' excavation
- Fish barrier
- Stream crossing volume 200 cubic yards



View of inlet under normal flows, bank erosion and flows over road common occurrence.



This photo taken just before we excavated the culvert, site has been grubbed of vegetation. You can see where water has went over the road at times and can see the shotgunned culvert which was a fish barrier to resident Steelhead.



Diverted creek via 6" plastic flex pipe, with small sandbag gravity flow diversion dam, we did partial excavation and then later we plugged flex pipe and used pump to take water around second half of excavation.











At the time we pulled the culvert, the creek was being diverted (pumped) around the site entering below our construction area.











Total Costs \$18,000

\$12,000 in Equipment Contracts

One stream crossing along 0.10 miles of road

200 cubic yards at crossing

\$90 per cubic yard



West Fork of Hayfork Creek 2014 <u>Background Issues</u>

- Abandoned USFS road
- Undersized, plugged and damaged culvert
- Stream crossing volume 4500 cubic yards





View upstream from inside of 84" Culvert on West Fork of Hayfork Creek, before and after plugging event in 2013





36" Culvert

84" Culvert



West Fork of Hayfork Creek 29N35A







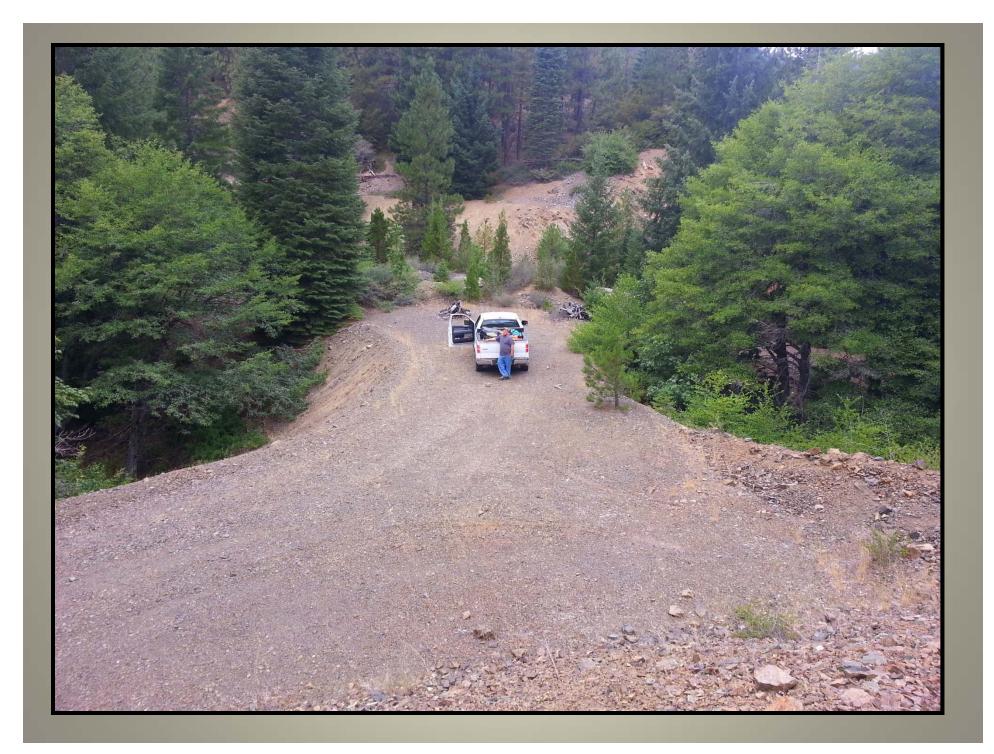








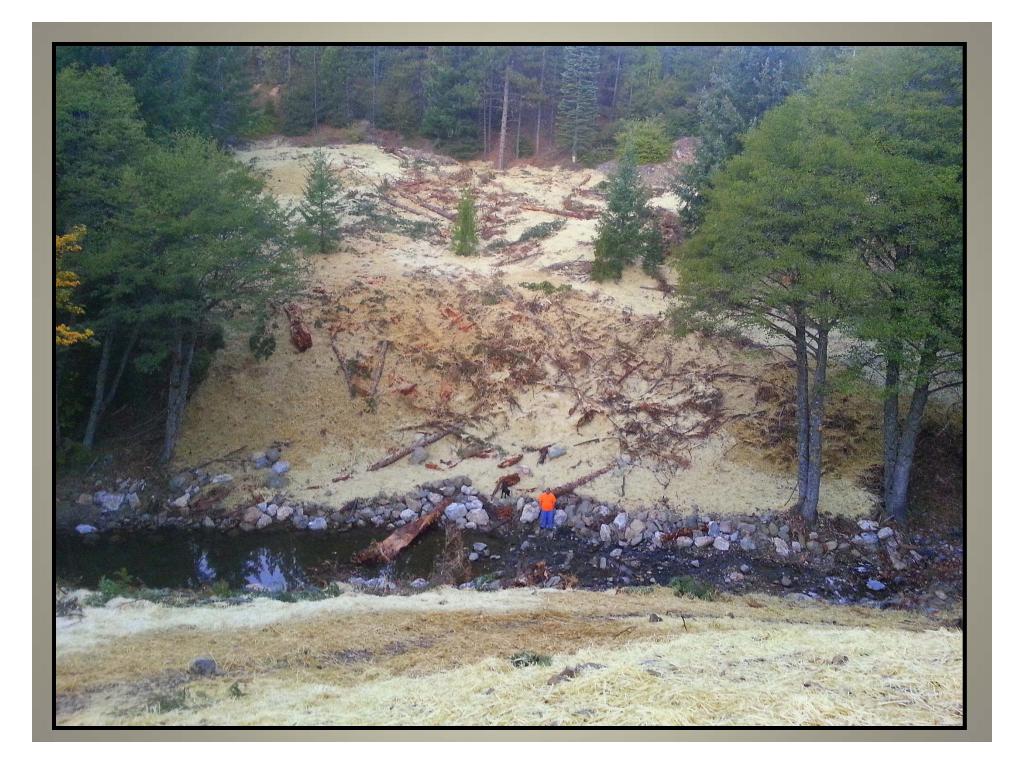
















29N35A Total Costs \$103,000

\$70,000 in Equipment Contracts

Includes both stream crossings along 0.50 miles of road.

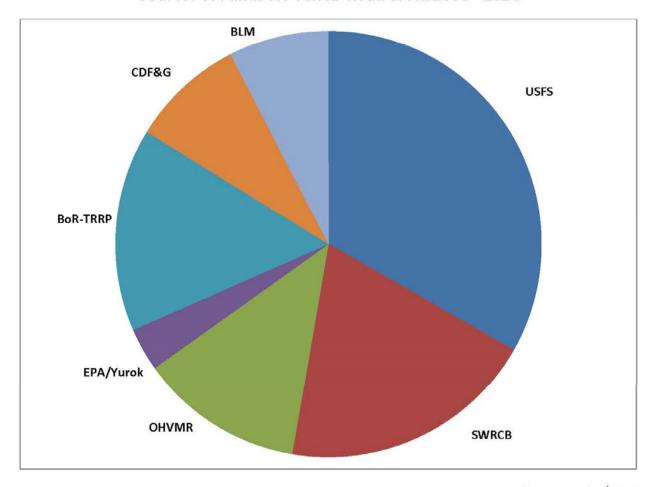
6800 cubic yards excavated from two stream crossings

\$15.00 per cubic yard

Funding Sources

- USFS (includes RAC)
- •BLM
- BOR (Trinity River Restoration Project)
- EPA (Yurok Tribe)
- State Water Resources Control Board
- California OHMVR
- California Department of Fish and Wildlife

Sources of Funds for TCRCD Road Work 2006 - 2014



Total Grant Funds: \$7,836,355

