



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

Community. Restoration. Prevention.

Photo by Mathew Grimm, used by permission of Environmental Defense Fund.

Coldstream Canyon Floodplain Restoration

February 12, 2013





TruckeeRiverWatershedCouncil

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

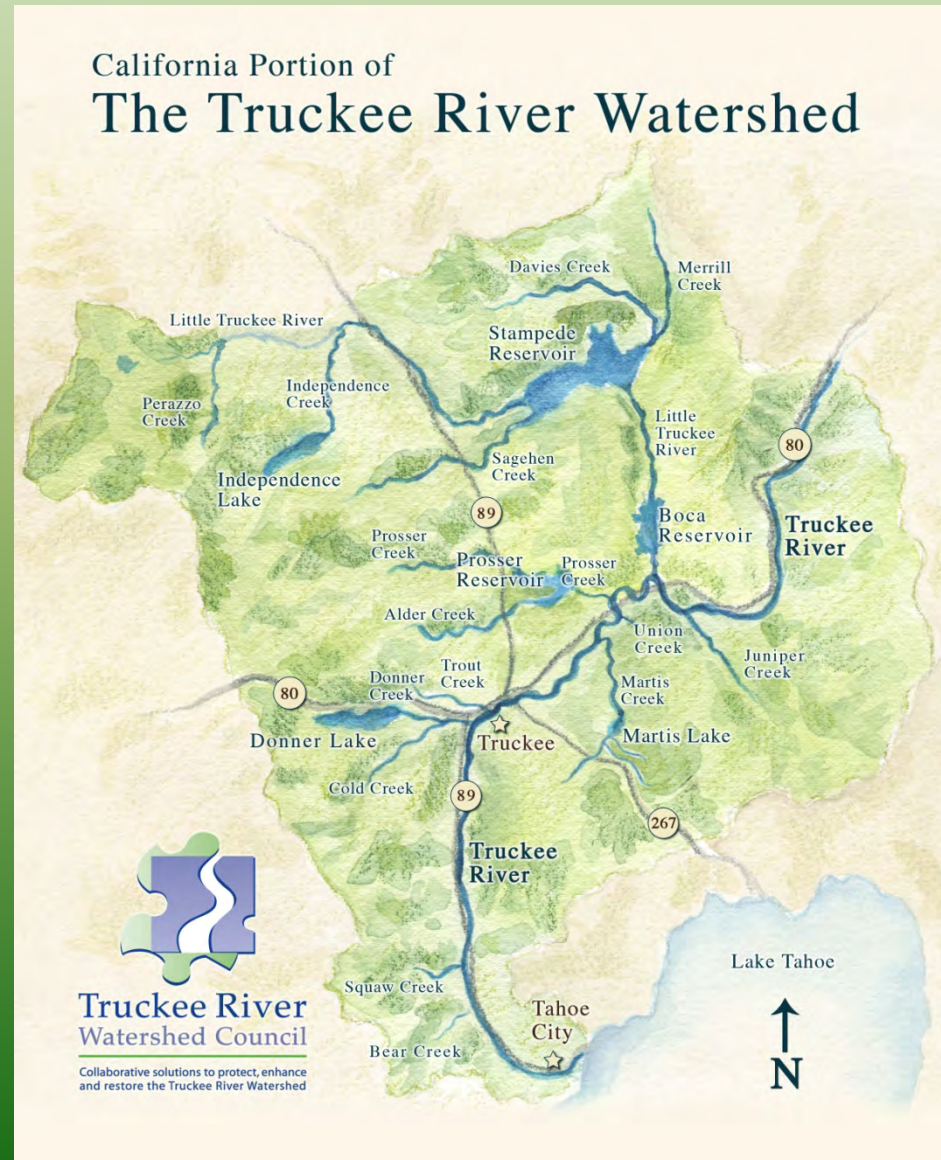
Our Values

- Partnerships
- Ecologically Sound
- Economics



Pristine? No...

- 7 dams
- 6 listed waters
- 1 railroad
- 1 Interstate
- Logging
- Gravel mining
- Grazing



Truckee River Day – 17 years!



RIVER-FRIENDLY LANDSCAPING

CALL US TODAY FOR A FREE SITE EVALUATION
530-550-8760 ext. 3

Soil loss from your property is a form of pollution. The River-Friendly Landscaping program wants to help you implement pollution controls at your Truckee or Placer County property.

Receive up to \$1,000 rebate if you implement by July 1, 2012

For more information visit truckeeriverwc.org or email aotto@truckeeriverwc.org.



The River-Friendly Landscaping program is a joint project by the Truckee River Watershed Council and Sierra Nevada Alliance. Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board and the U.S. Environmental Protection Agency under the Federal Nonpoint Source Pollution Control Program (Clean Water Act Section 319). The contents of this document do not necessarily reflect the views and policies of the State Water Resources Control Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use. (Gov. Code, 7750, 40 C.F.R. 31.20)

www.truckeeriverwc.org



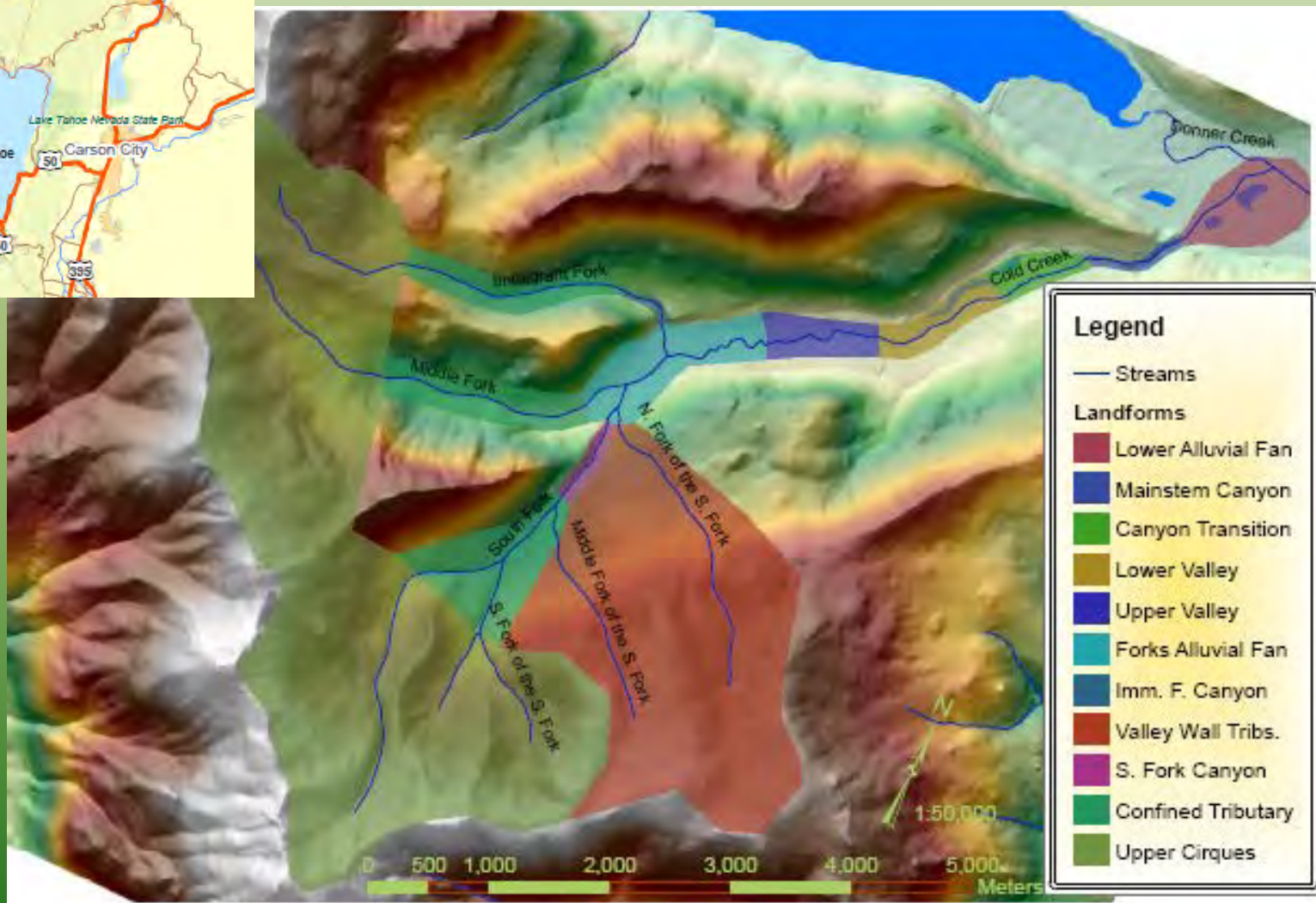
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Thank you funders!

- California Natural Resources Agency
- California State Parks
- California State Water Resources Control Board
- Overall Foundation
- Sierra Nevada Conservancy
- Truckee River Fund of the Community Foundation of Western Nevada
- Donors of the Truckee River Watershed Council



Disturbance History - Railroad

152 *The Photo Record*

COLDSTREAM VALLEY FROM HORSESHOE BEND

Plate 65a

Circa 1919

Elevation:

6,600 feet

Legal Description:

17 N, 15 E, Sec. 26



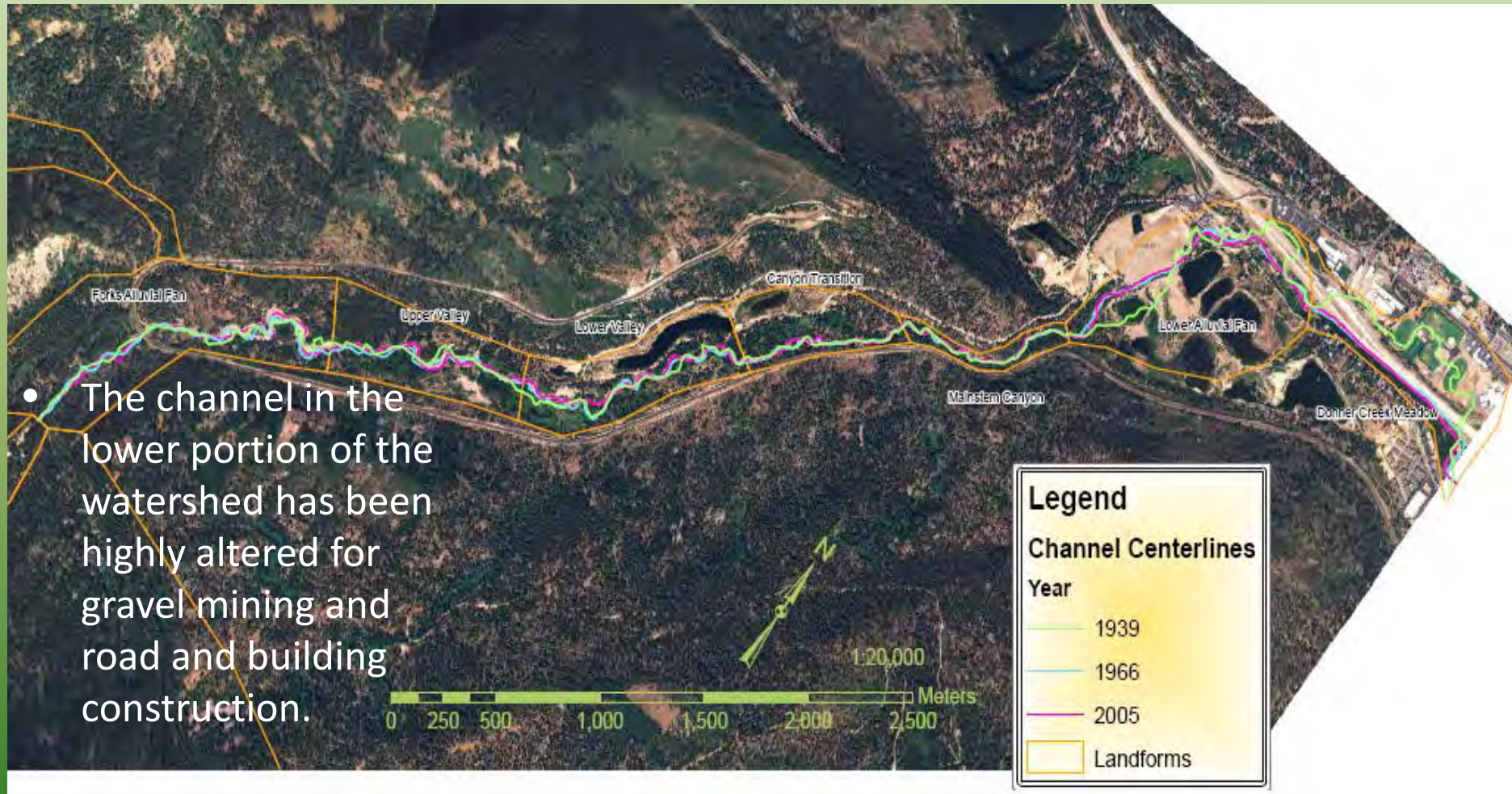
Taken about 2.5 miles southwest of the previous photo pair, this view looks down Coldstream Valley from Horseshoe Bend. The camera point for plate 64a is at the upper left in the distance. The horseshoe was a unique feat of engineering that allowed the tracks to maintain the specified grade up the mountain. The view shows trees in early stages of regeneration after loggers removed the original stands. The riparian zone to the left of center supports many willows, while shrubs and herbs grow in the openings between trees. —Courtesy Special Collections Department, University of Nevada, Reno

Disturbance History – Logging and Mining

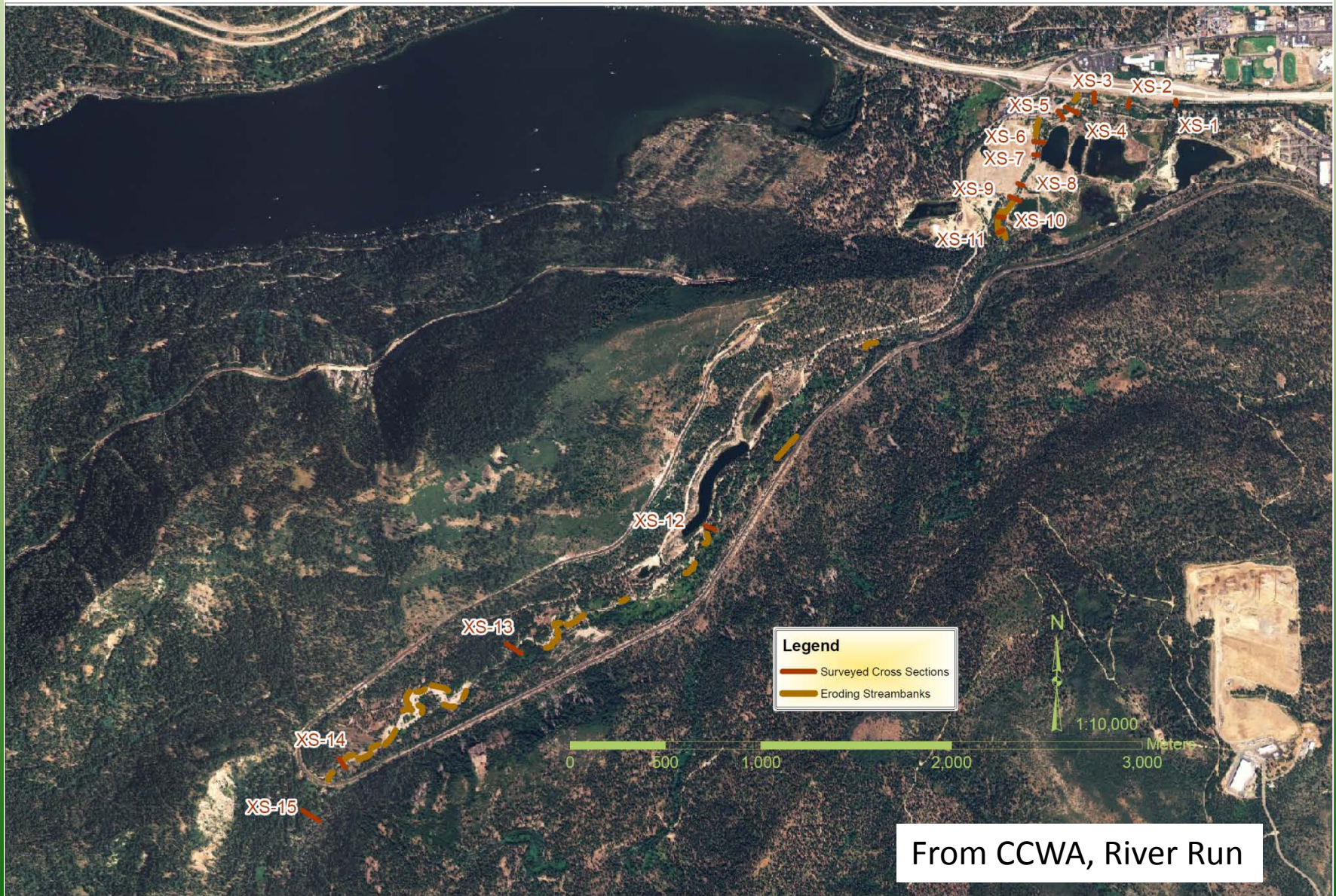


1966 Aerial

Channel Changes



Channel Instability



What to do?

- High priority area
- Desire to help
- Needed to understand the big picture



Restoration in Progress

- Watershed Assessment completed 2007
- Ponds restoration pilot project 2008, 2012
- Road maintenance
- Floodplain Restoration!



Stefan McLeod Photography

Coldstream Floodplain Restoration Project



Channelization for gravel mining caused incision and erosion

Coldstream Canyon Floodplain Restoration

California Department of Parks & Recreation

Cyndie Walck

CDPR Fluvial Geomorphologist



California State Parks Mission:

To provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.

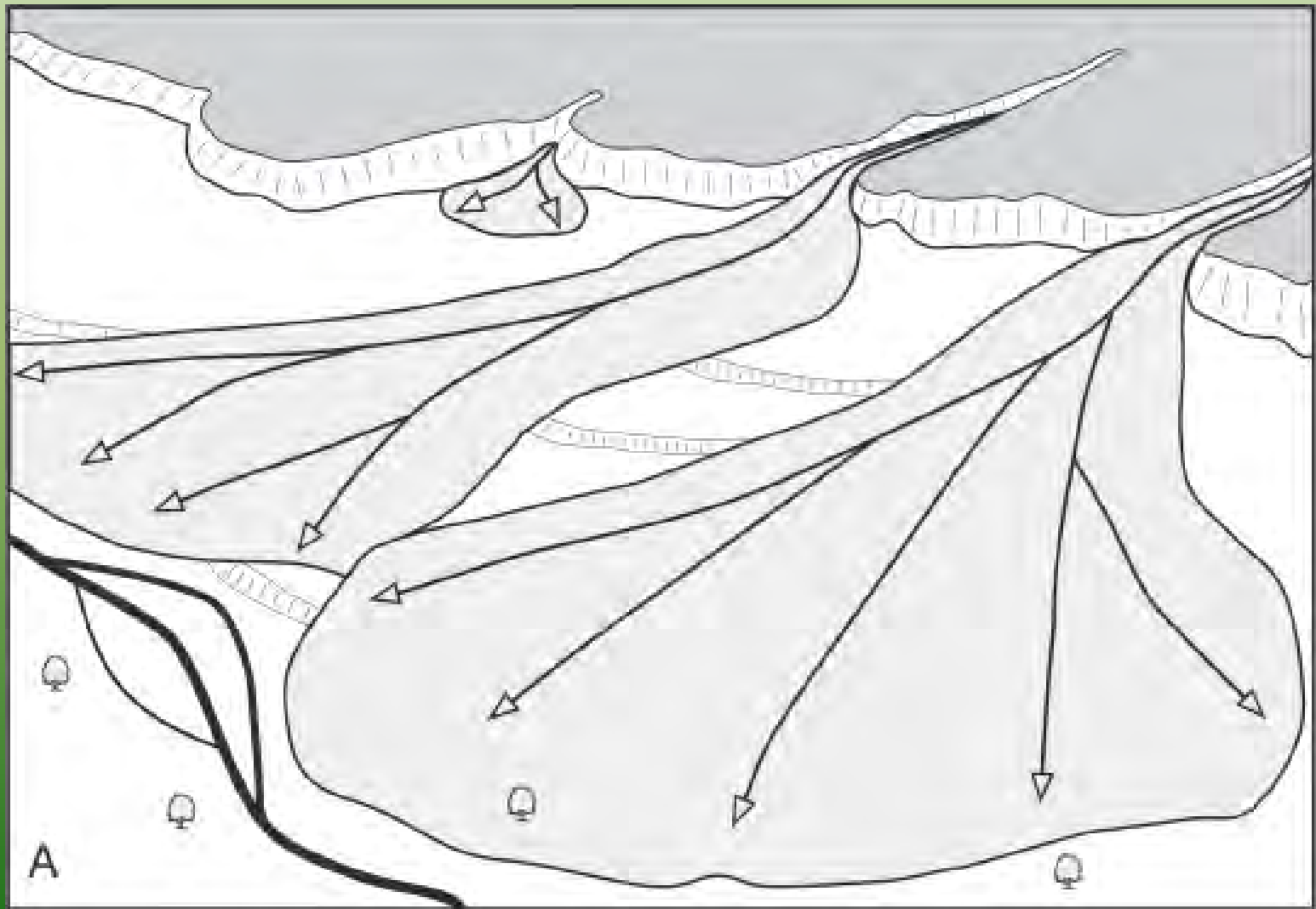
Coldstream Floodplain Restoration Project

Partnership with Truckee River Watershed Council

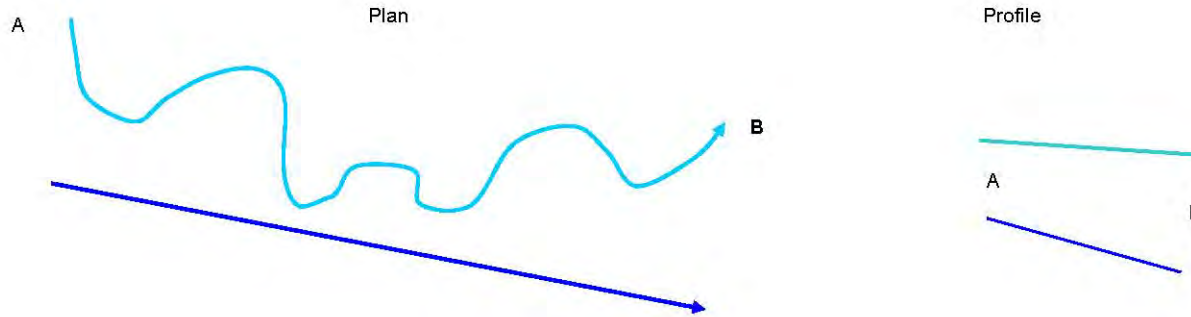


Channelization for gravel mining caused incision and erosion

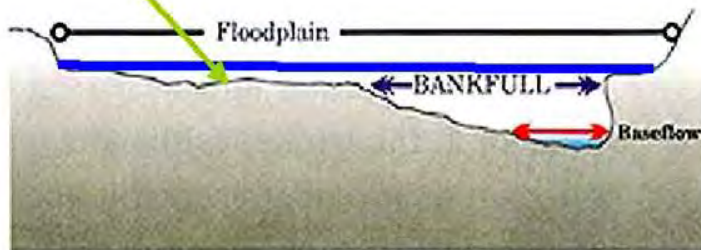
Fan at confluence



Increased slope leads to incision

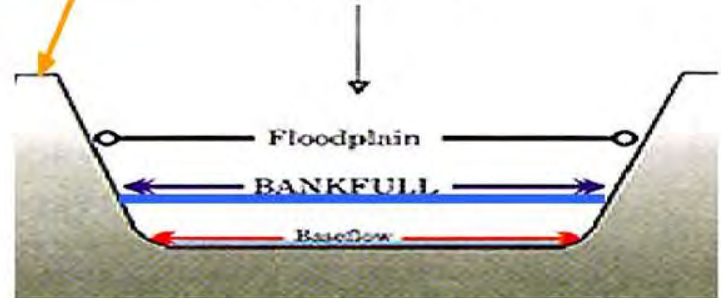


Wet Vegetation



Dry vegetation

Stream downcut



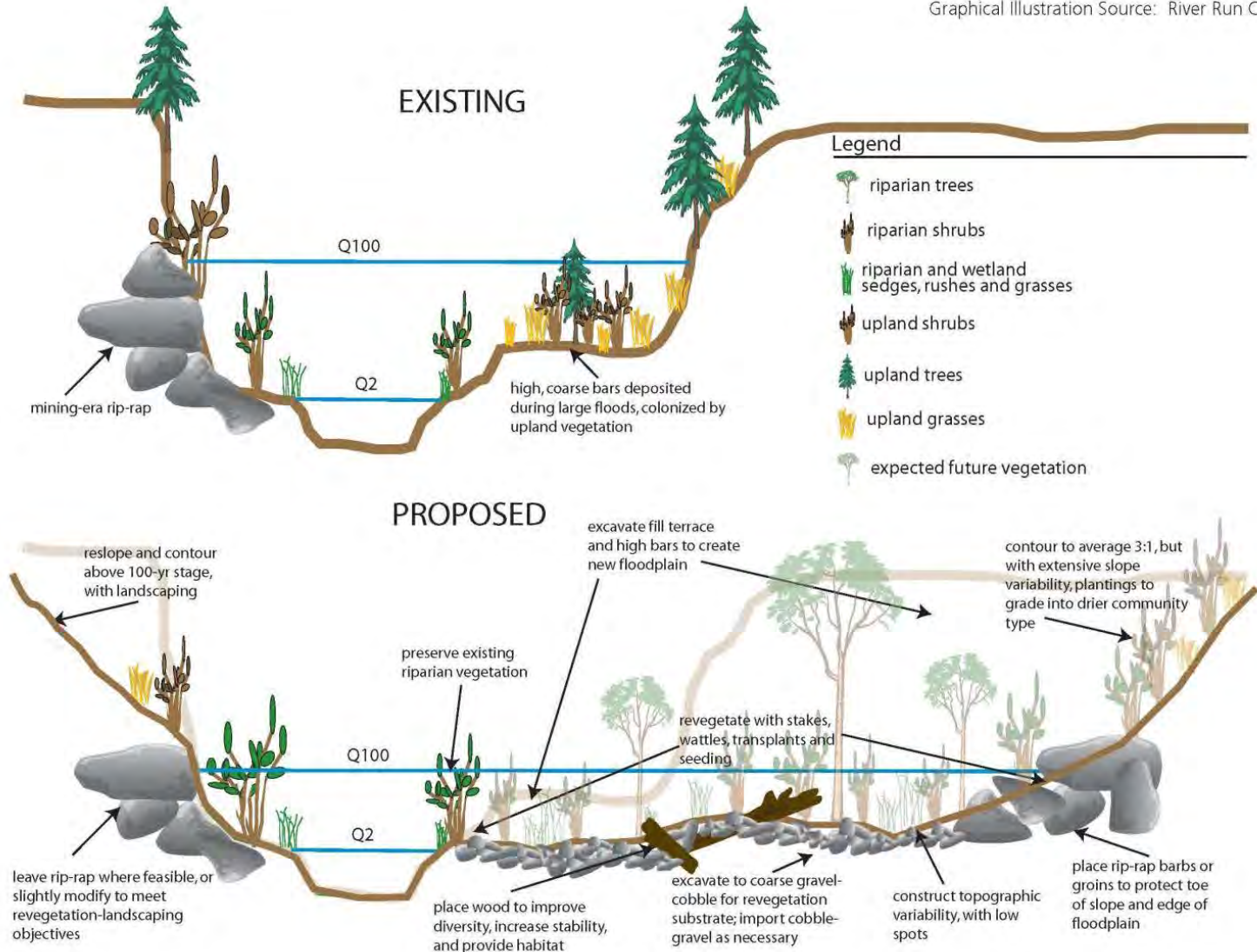
Effects of Channel Disturbance

- Increased erosion and sediment supply
- Vertical channel instability
- Poorer quality habitat, both aquatic and riparian
- Increased turbidity



Floodplain creation

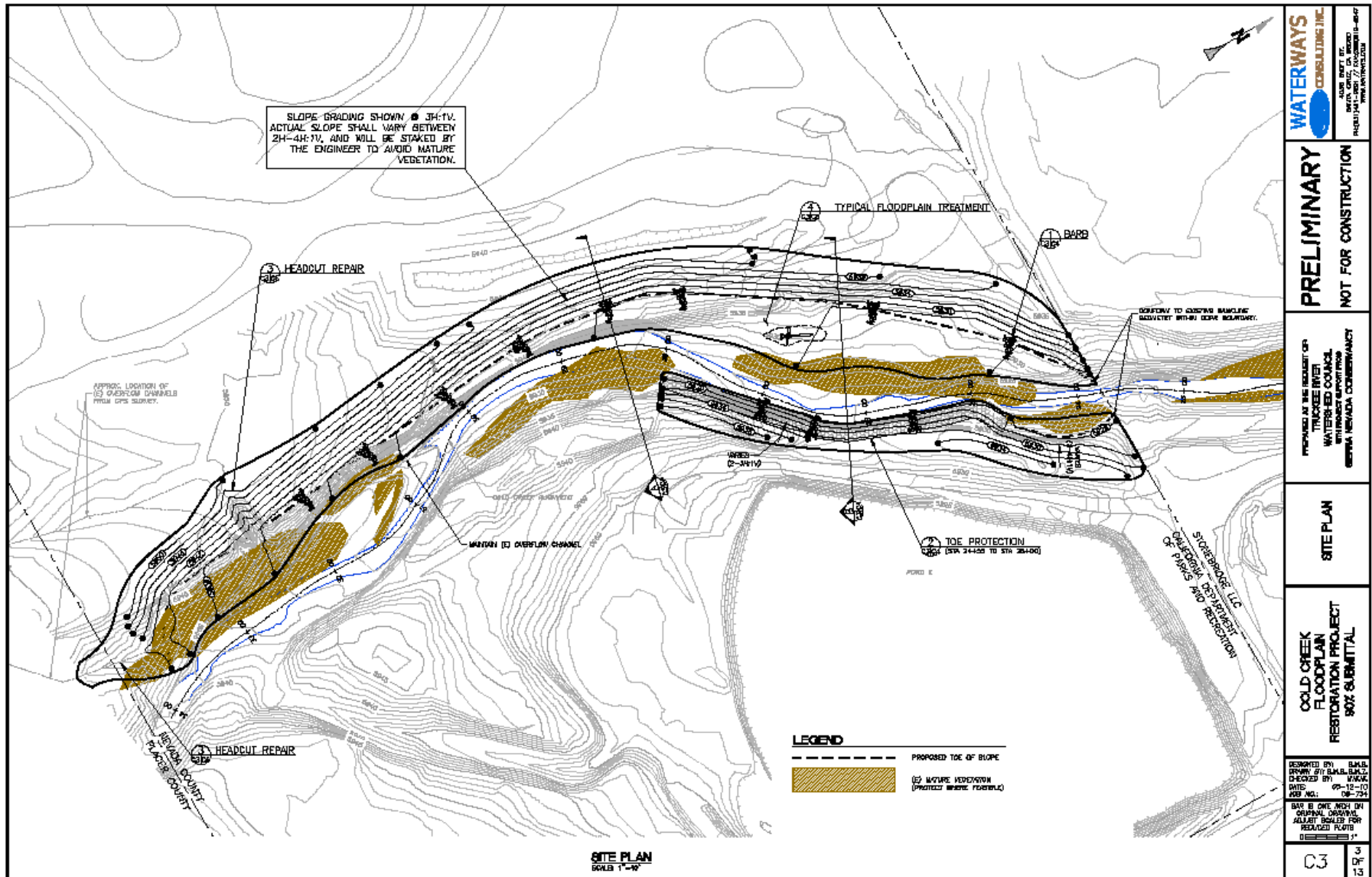
Graphical Illustration Source: River Run Consulting



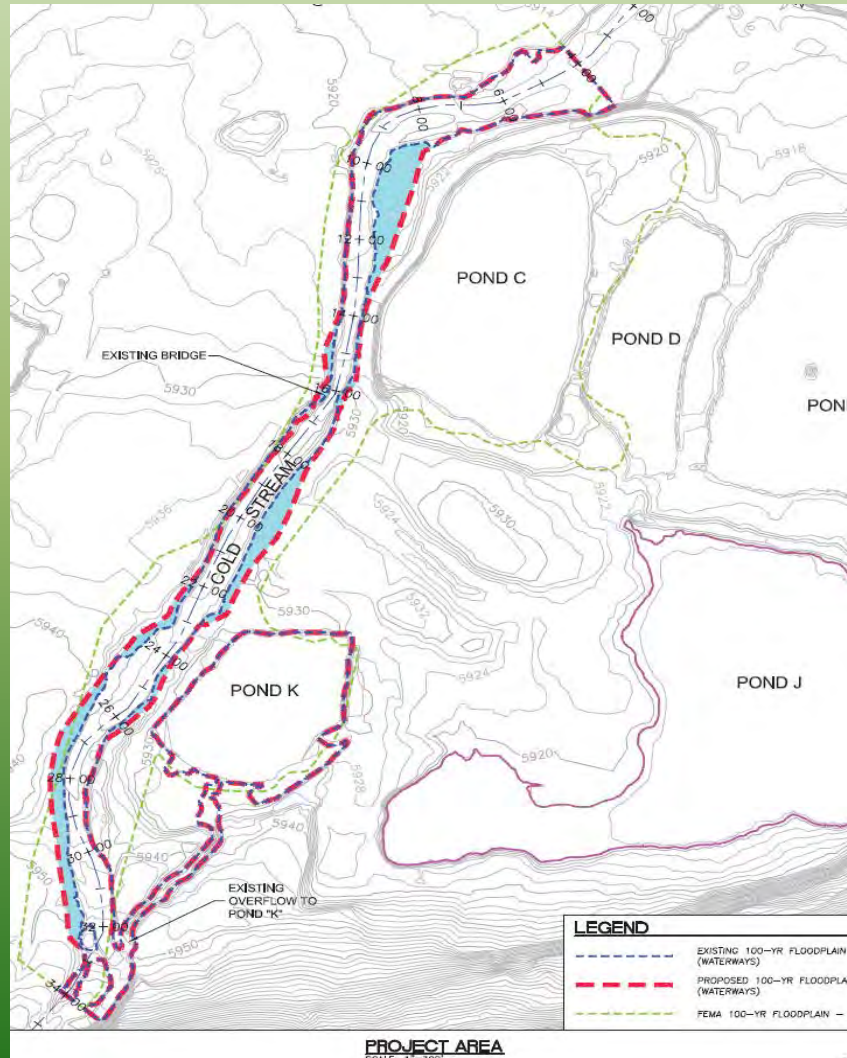
Planning

- Field surveys
 - Cross-sections and profile
 - Topo-contours
 - Flows
 - Vegetation
- Engineered Designs
- Material Handling-over 12,000 yards of material
- Permits
 - WQCB
 - COE
 - DFG
- Contracting

Designs developed by Waterways Engineering



Teichert Collaboration



Collaboration on
planning and
materials
stockpiling

Made cost feasible
-No trucking on
highway needed

Construction management



Habitat Restoration
Sciences (HRS)
Contractor



Clearing and salvage



Maximize re-use of materials



De-watering and BMP's



Major grading



Excavation of over 12,000 yards---required large heavy equipment



Excavation sequence



New floodplain excavated to subgrade



Elevation critical



Barb construction



Barb anchoring



Barbs = Woody debris
structures



deflect flow &
provide habitat

Sorting and screening



Floodplain armor generated for re-use



Floodplain armor



Completed barb and
floodplain armor



Eroding right bank risks
pond capture





Right bank
structure

Vegetation salvage and planting



Shrub elevations surveyed and flagged to stay or salvage



Seed & Mulching





Pre



Post



Pre
Tall eroding bank

Post
Bank laid back with
inset floodplain



Pre
Tall eroding
bank by pond



Post
Bank laid back,
armored and planted



December flood



Everyone can help the Truckee River!

- Weed Warriors
- Adopt-A-Stream
- Truckee River Aquatic Monitors
- Truckee River Day Group Leaders
- Ambassadors



AMBASSADORS

Spread the word about TRWC



- Come to a River Talk
- Invite 10 friends to a River Talk – even host one in your home
- Call 550-8760 x4 today!