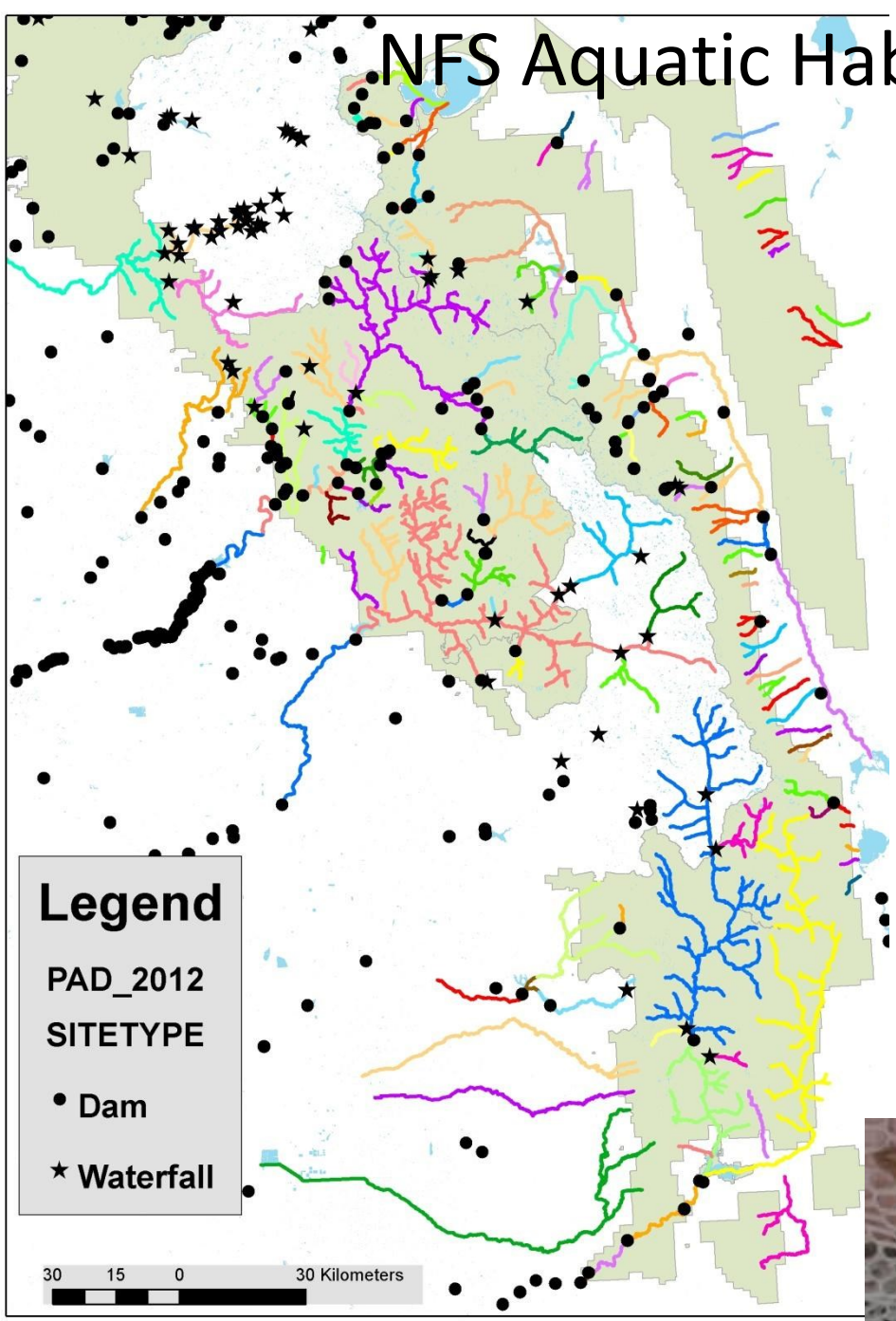
AOP Accomplishments 2013

Forest Service – Region 5

NOAA Fisheries
Habitat Conservation Div.
Santa Rosa Field Office
GIS Department
October 2009

US Forest Service Land

NFS Aquatic Habitat Connectivity



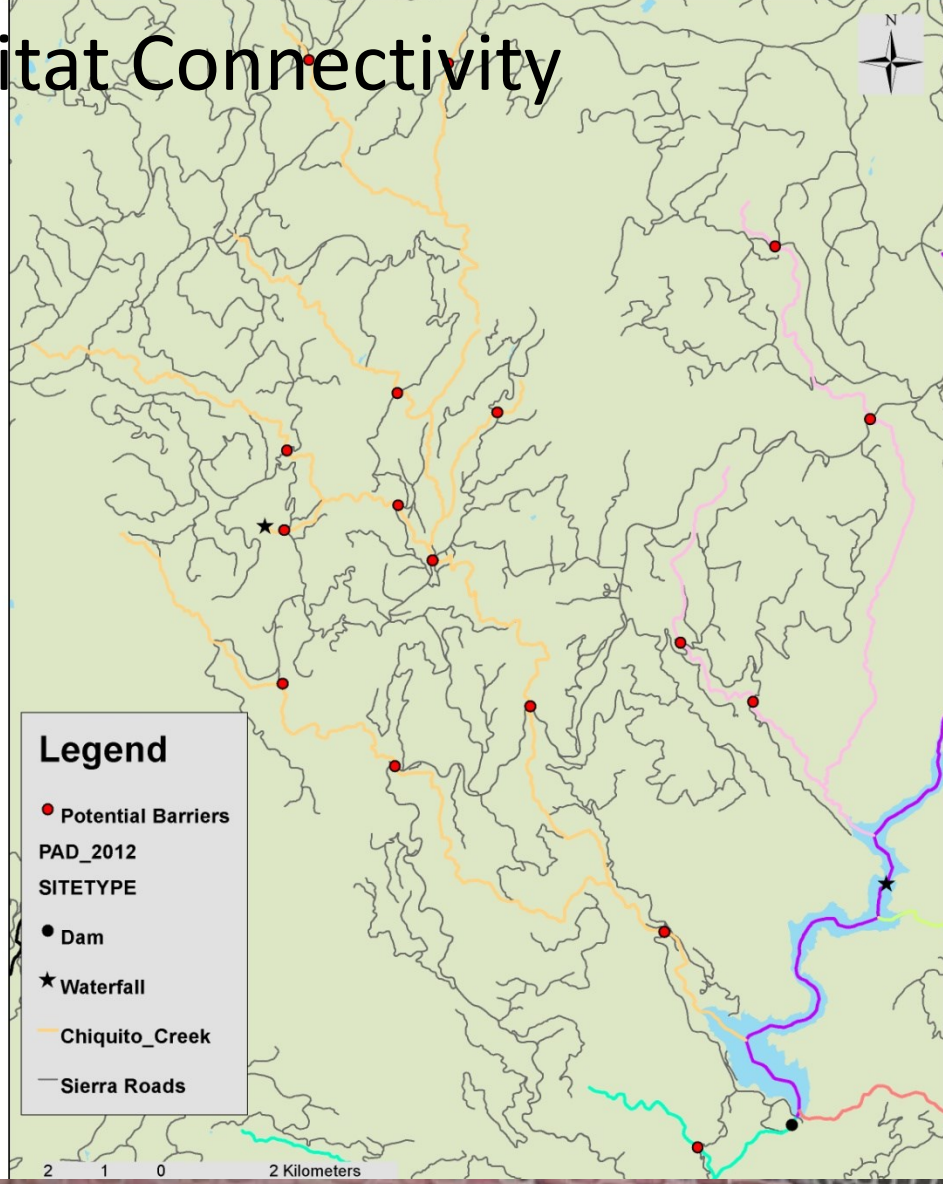
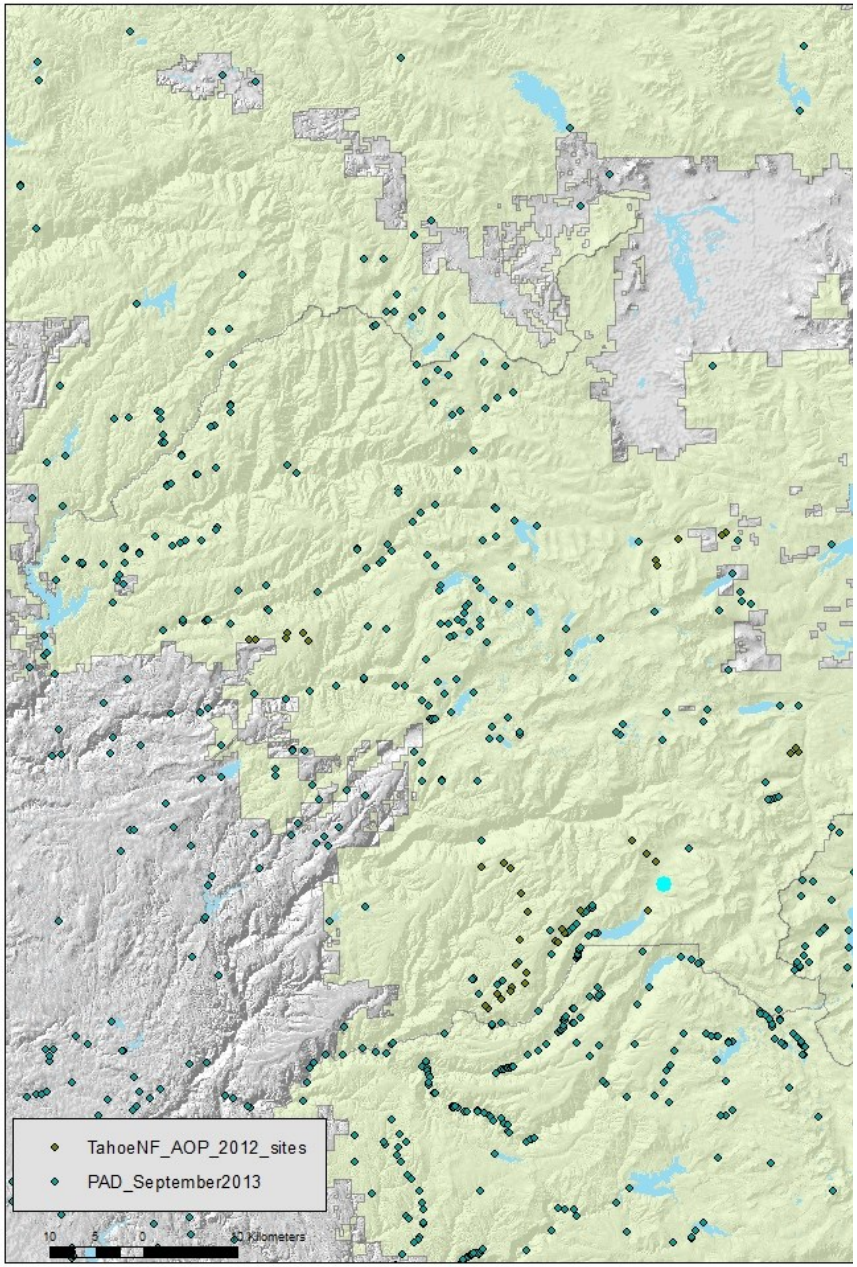
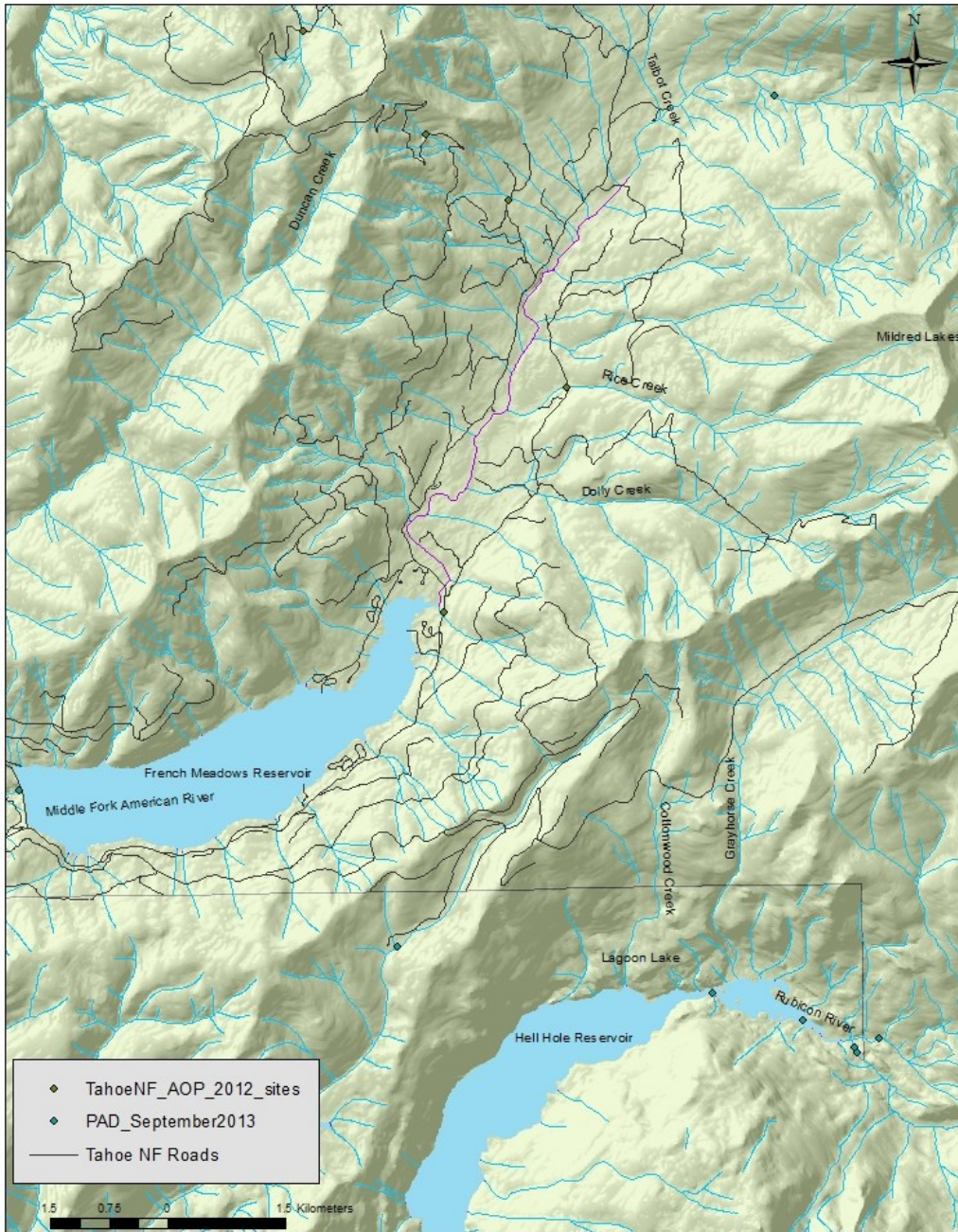


Figure 3: Southern Sierra-Nevada Aquatic Habitat Network.

Rice Creek AOP Site



Rice Creek AOP Restoration



Rice Creek - Background

- During fiscal year 2012, the Forest Service road 68 Rice Creek crossing was surveyed on the Tahoe NF using the San Dimas NIAP (USDA Forest Service 2006).
- Funding for this project came from the Capital Maintenance and Legacy Roads BLI (CMLG).
- Rice Creek was assessed as impassable to all life stages of rainbow trout.

Rice Creek - Background

- Rice Creek is a perennial coldwater tributary to the MF American River that provides important spawning habitat for resident trout.
- 2007 electrofishing data revealed nearly 4,600 YOY trout per mile in the MF American River just upstream of French Meadows Reservoir.
- This survey indicated that rainbow trout are moving out of the French Meadows Reservoir and into the MF American River and its tributaries to spawn.

Rice Creek - Methods

- The Rice Creek culvert was installed in the 1968 and is a barrier to all life stages of aquatic species.
- This project removed and replaced the existing structure with an appropriate stream simulation structure with a bottomless arch19’-6” wide by 8’-8” height and 65 feet in length.

Rice Creek - Methods

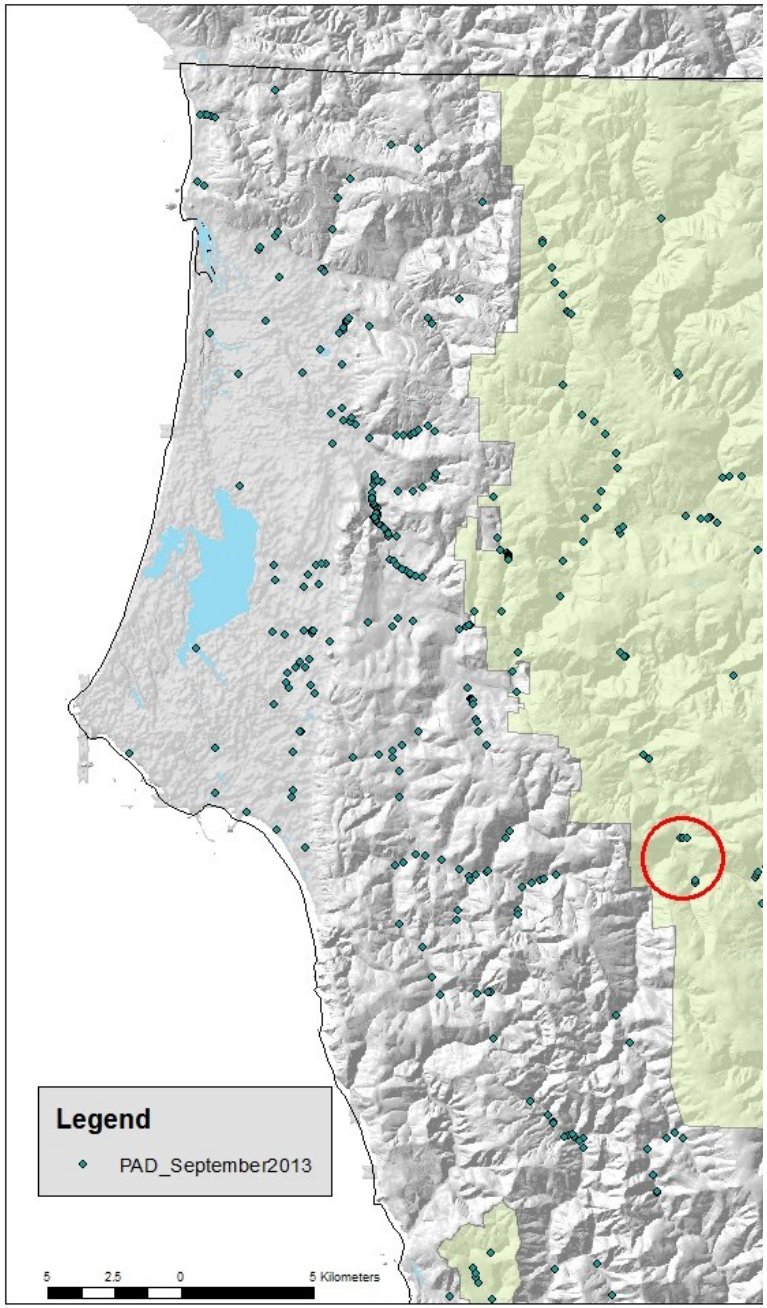
- A new channel was built just upstream, through and downstream of the crossing. To accomplish natural channel design (otherwise termed as “stream simulation”) and AOP.
- A representative stream channel was configured, to include aquatic habitat features such as 3 pool-riffle grades, achieves a 1.5-2 year flood return interval relationship to the floodplain, and has contiguous natural channel substrate through the crossing.

Rice Creek - Results

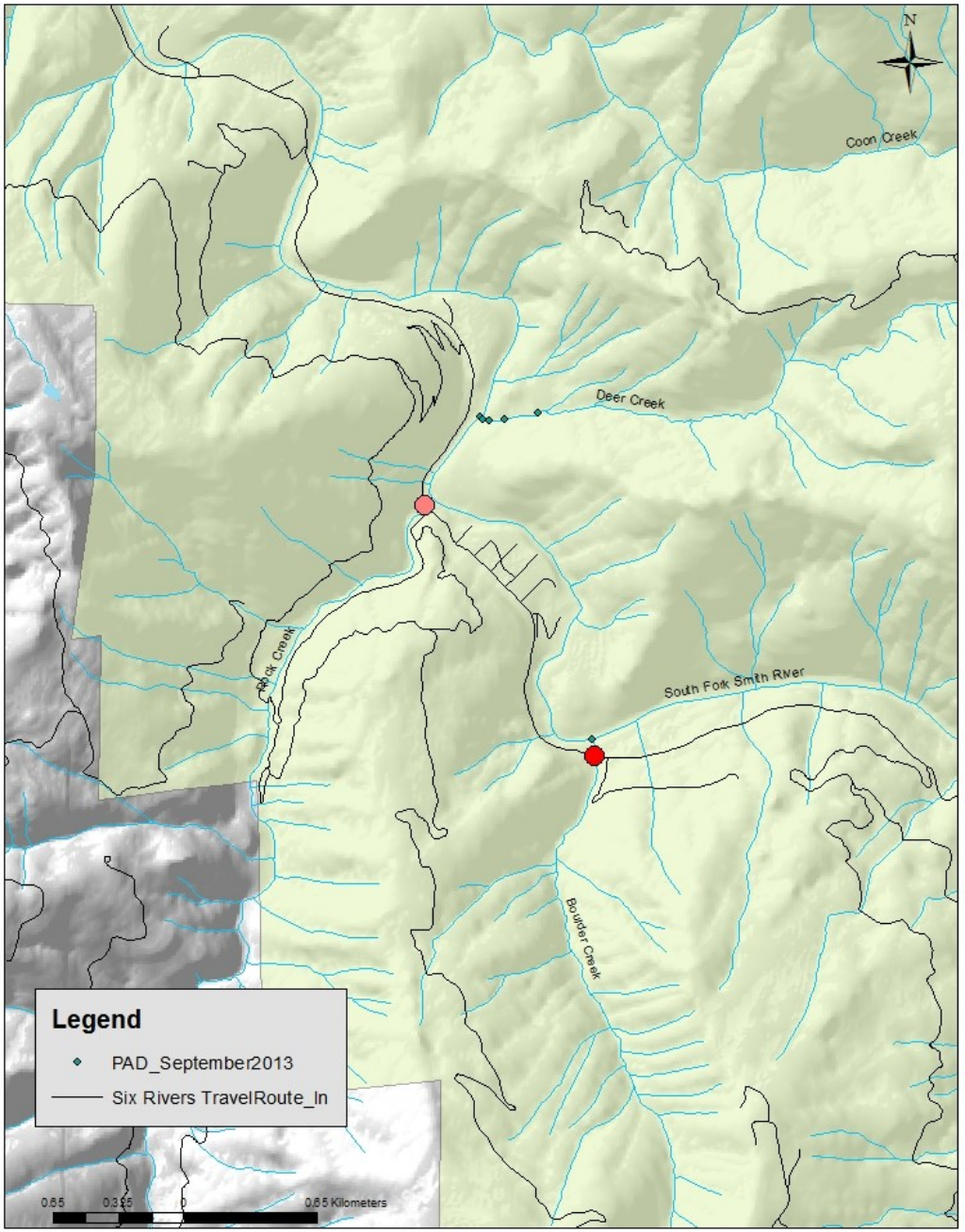
- Achieving AOP in Rice Creek will allow native fish access to 3.5 to 4 miles of upstream habitats that have been cut-off for the last 45 years.

Habitat	Accomplishment Type	Output	Acre Equiv.	Dollars	In-Kind
Inland Coldwater	Miles of stream habitat restored or enhanced	4.0		151,500.00	

Rock Creek and Boulder Creek AOI



Rock Creek and Boulder Creek AOP Restoration



Rock Creek and Boulder Creek Background

- Two bridges were replaced on Del Norte County Road 427, also known as South Fork Road to improve AOP for Boulder and Rock Creeks - tributaries of the SF Smith River.
- The existing structures (over 50 years old) constricted the channels and accumulated large substrate, which in combination resulted in marginal passage opportunities for aquatic organisms.

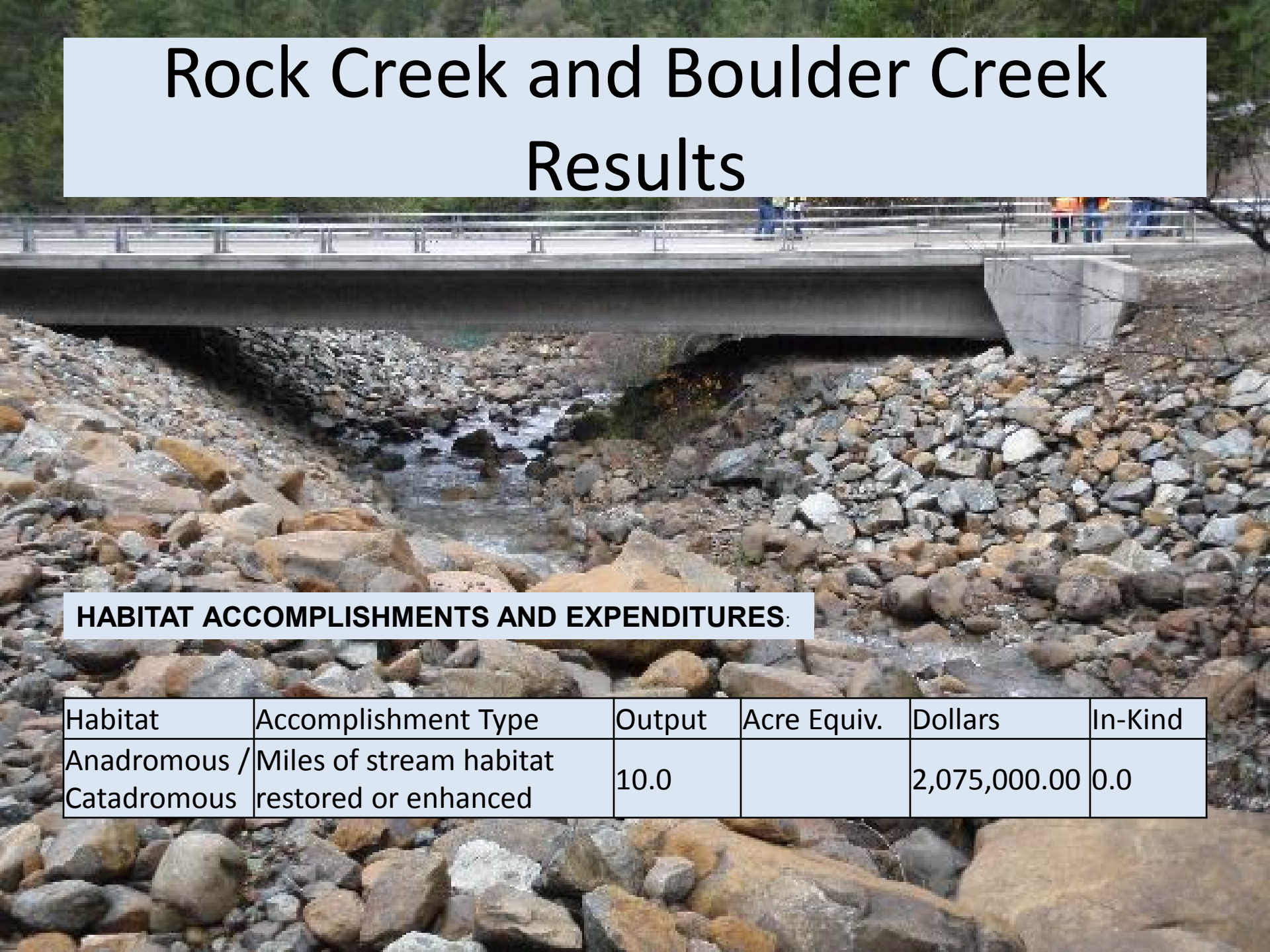
Rock Creek and Boulder Creek Methods

- New wide-spanning and non-constricting bridges were installed by the Forest Highways program of the Federal Highways Administration (part of the South Fork Road Improvement Project).
- The resident US Forest Service Fishery Biologist on the Smith River NRA assisted in planning and consultation.

Rock Creek and Boulder Creek Results

- Rock and Boulder Creeks contain steelhead/rainbow trout and coastal cutthroat trout, and provide suitable spawning and rearing habitat for Chinook and Coho salmon.
- Replacement with longer spanning structures and removal of large substrate blockages will improve passage conditions for all life stages of immigrating and emigrating aquatic organisms.

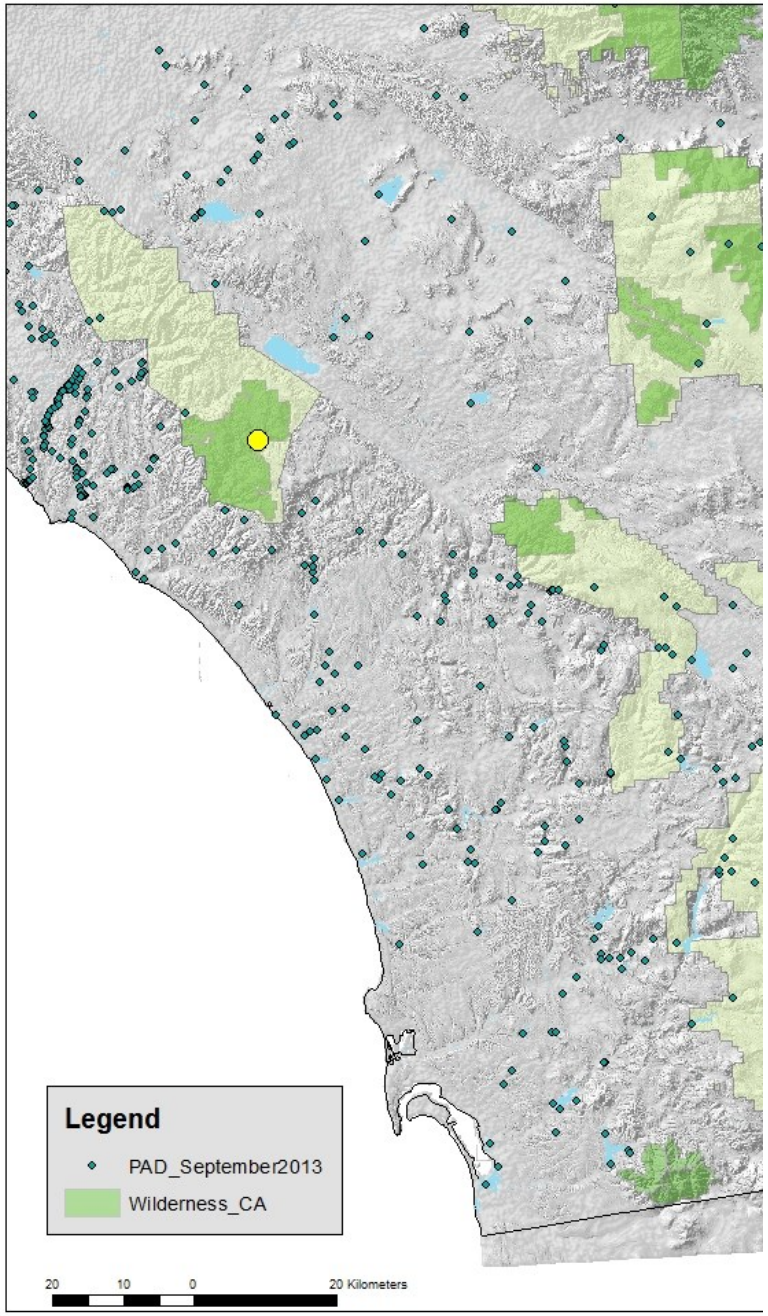
Rock Creek and Boulder Creek Results



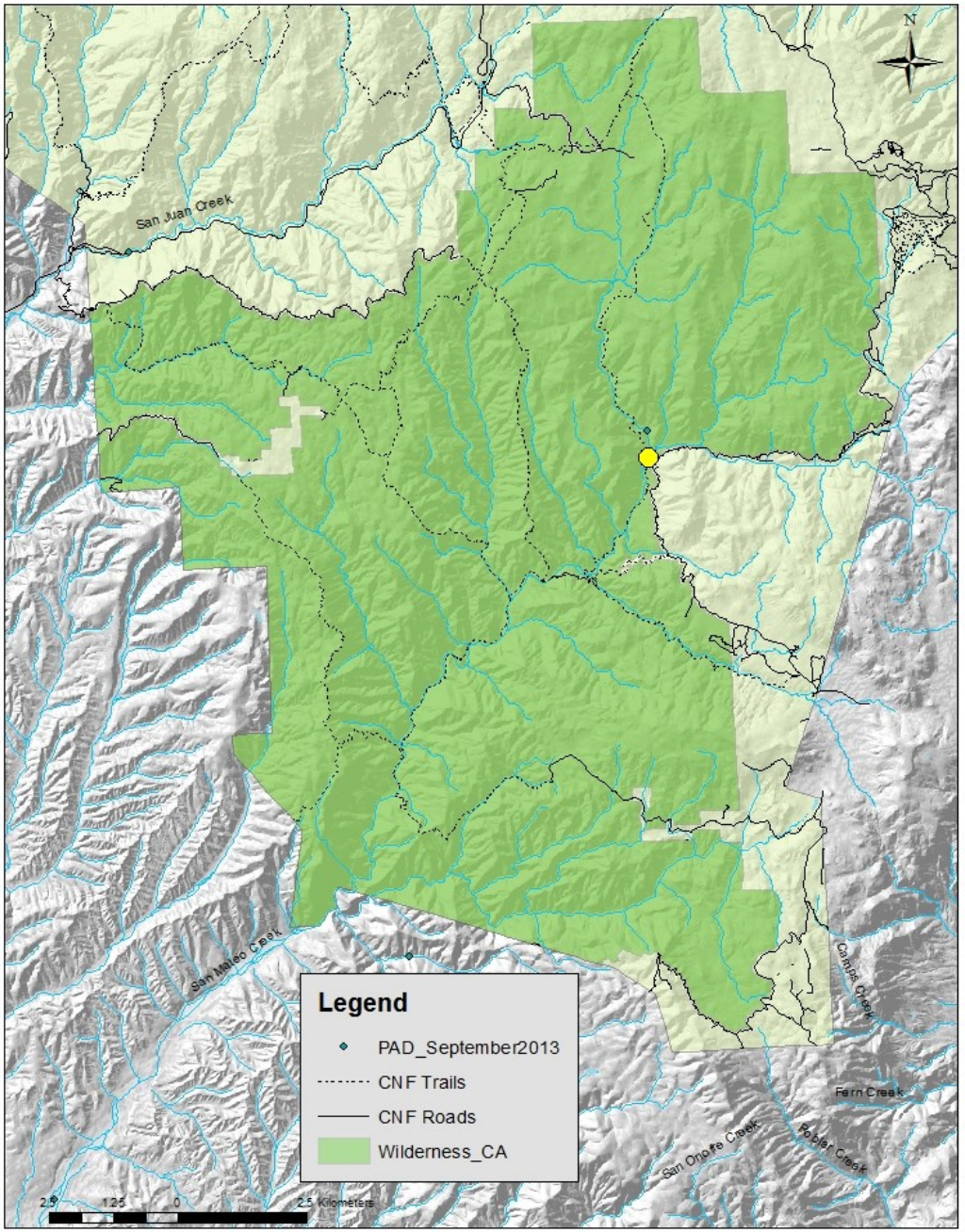
HABITAT ACCOMPLISHMENTS AND EXPENDITURES:

Habitat	Accomplishment Type	Output	Acre Equiv.	Dollars	In-Kind
Anadromous / Catadromous	Miles of stream habitat restored or enhanced	10.0		2,075,000.00	0.0

San Mateo Creek AOP Site



San Mateo Creek AOP Restoration



San Mateo Creek

- The purpose of the project was to remove a partial barrier to fish passage in San Mateo Creek.
- The barrier was an old concrete ford road left over from before this area became the San Mateo Wilderness.
- San Mateo Creek is critical habitat for Southern California steelhead

San Mateo Creek - Methods

- A track hoe was used to break up and remove the concrete slab.
- All of the concrete was then recycled off-site.

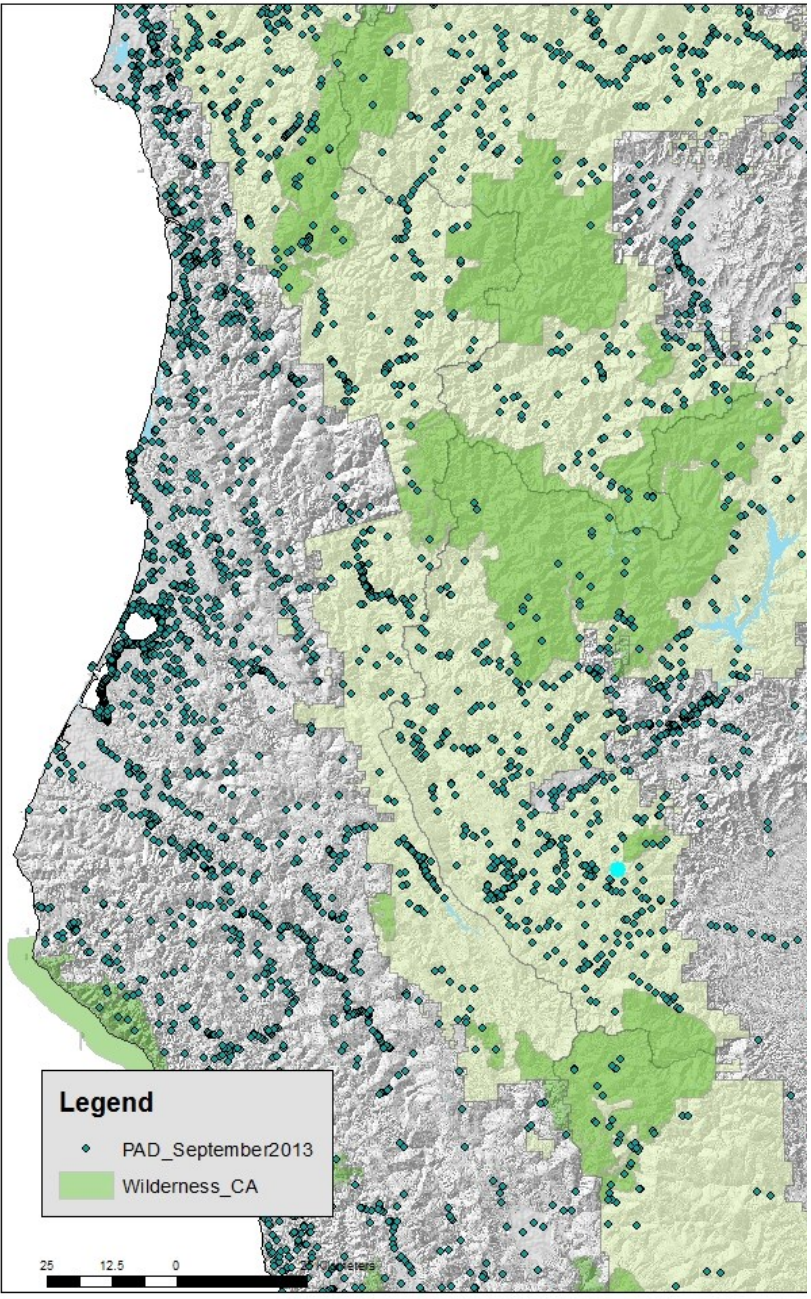
San Mateo Creek - Results

- Improved fish passage through this area, including access to approximately 4 miles of upstream areas in San Mateo and Los Alamos Creek that were previously not accessible during low flow periods.

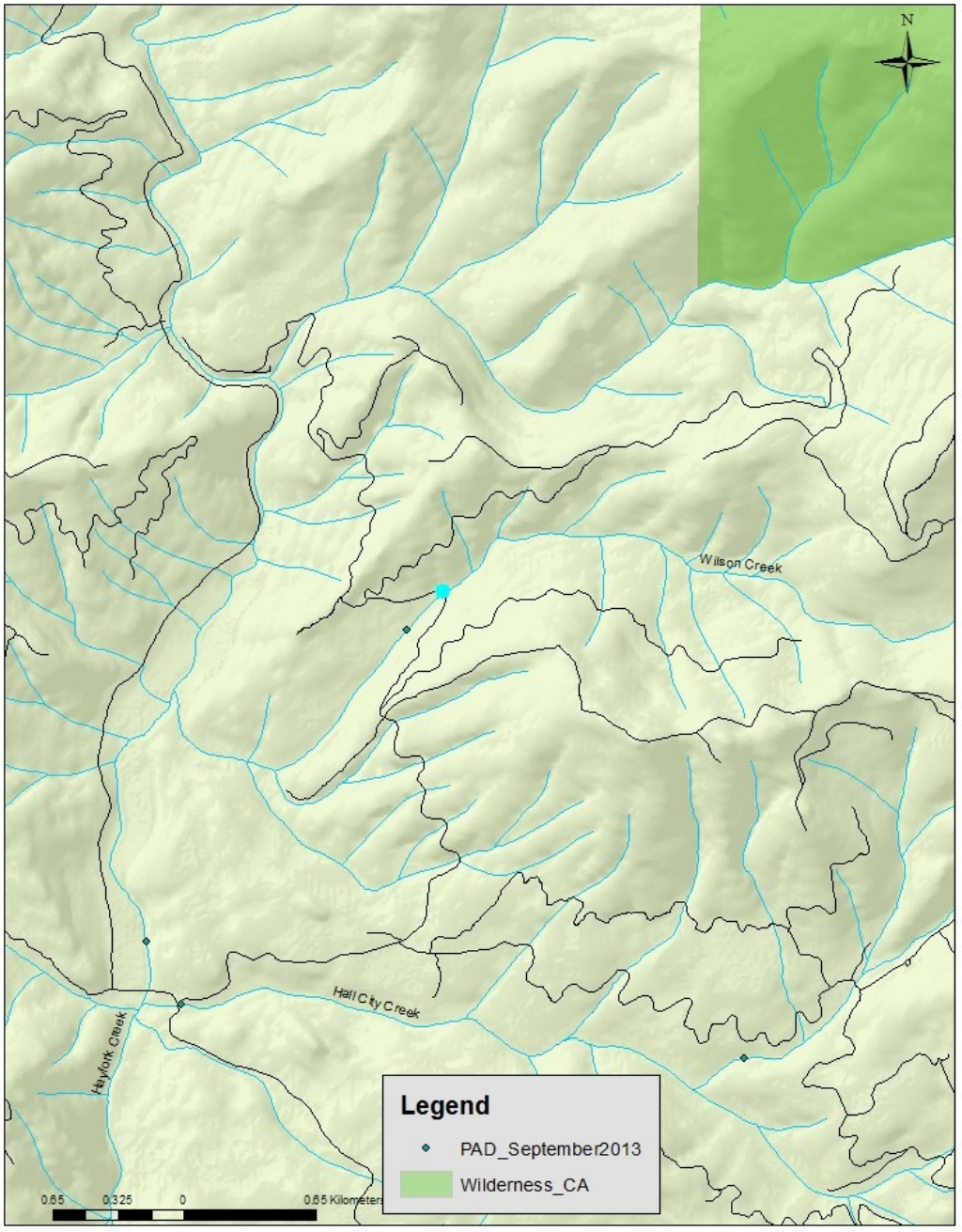
HABITAT ACCOMPLISHMENTS AND EXPENDITURES:

Habitat	Accomplishment Type	Output	Acre Equiv.	Dollars	In-Kind
Anadromous / Catadromous	Miles of stream habitat restored or enhanced	4.0		75,000.00	

Wilson Creek AOP Site

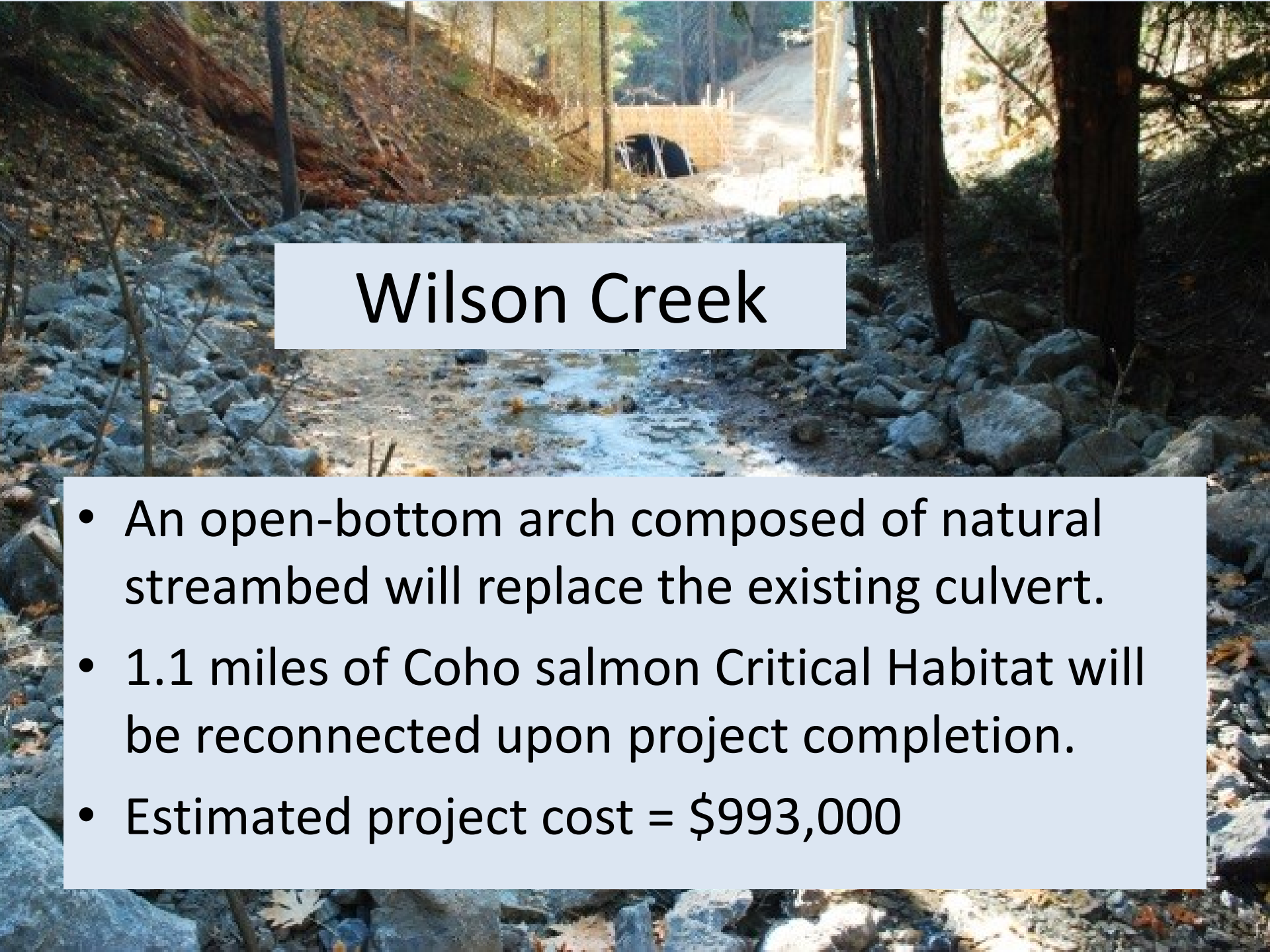


Wilson Creek AOP Restoration



Wilson Creek

- The proposal site is currently composed of a seven-foot diameter corrugated metal pipe (CMP) culvert under a National Forest road that crosses Wilson Creek.
- The outlet area of the culvert is composed of a concrete-poured block pad several feet in height.
- A 'steep-pass' type fish ladder was installed many years ago, but there is no evidence the ladder was ever successful in passing fish.



Wilson Creek

- An open-bottom arch composed of natural streambed will replace the existing culvert.
- 1.1 miles of Coho salmon Critical Habitat will be reconnected upon project completion.
- Estimated project cost = $993,000