Coyote Creek Fish Passage & Jordan Creek Riparian Enhancement at Mattson's

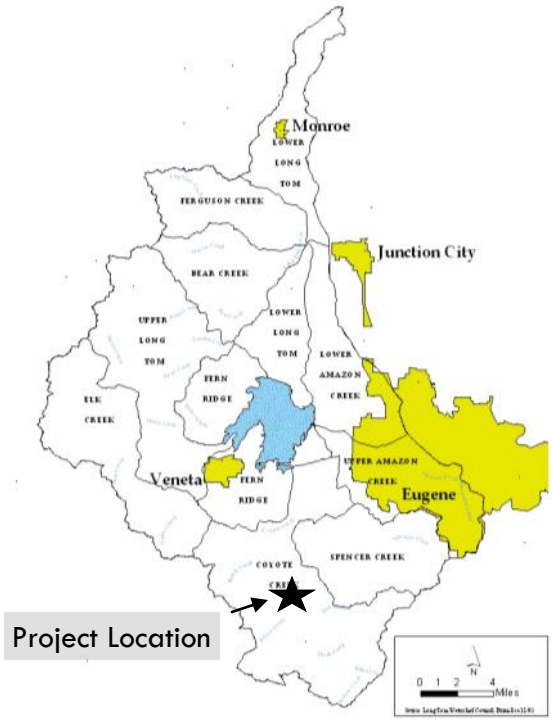
Project Background

This project was located at the Mattson's ranch on Coyote Creek. The culvert that channeled the creek under their entrance road was undersized and blocked access to 46 miles of perennial streams—almost half of the sub-watershed. Many of these streams have good to excellent spawning and rearing habitat for cutthroat trout, which made replacing this culvert a high priority. During high flows, water shot out of the culvert creating a velocity barrier for fish and causing significant bank erosion. During low water, there was a 2-foot drop that prevented trout from passing upstream.

The Mattson Ranch also encompasses most of Jordan Creek. In the early 1900's, the lower portion of the stream was re-routed around several pastures, creating a straight channel with poor fish habitat and steep eroding banks. Grazing had eroded sections of the stream bank, prevented native shrubs and trees from thriving, and led to a riparian area dominated by blackberry. There was little shade along the stream and water temperatures prevented trout from inhabiting the creek in the summer. High *E. coli* and nutrient levels in Coyote Creek pointed to the need to keep livestock out of Coyote Creek and its tributaries.

Before & After: The top photo shows the two foot drop at the culvert's outlet in the summer. Now the crossing is passable to fish year round .

An excavator removes the undersized culvert that blocked fish passage to 46 miles of upstream habitat.



Project Location

Project Funding & Support

Project Cost:	**$155,692**
OWEB Grant:	$114,167
In-kind & Cash Match:	$41,525

Partners:

Oregon Watershed Enhancement Board
The Mattson Family, *Landowners*
Many individual volunteers

Restoration Techniques

Replacing the culvert with a bridge was the most cost-effective and best restoration solution for fish passage on Coyote Creek. The concrete slabs for the bridge were salvaged from an ODOT detour bridge, which reduced the project cost by $14,000.

To exclude livestock from Jordan Creek, the landowners installed woven wire fencing along 3,500' of stream and established several off-stream watering facilities.

Blackberry in the riparian area was cut and spot sprayed. Volunteers and a professional crew planted over 5,000 native trees and shrubs along Jordan Creek over two winters. Willow and dogwood were planted close to the stream and drought tolerant species were planted higher up on the bank.

Before: Livestock prevented riparian vegetation from thriving.

After: Native vegetation rebounded after livestock were excluded

Environmental & Economic Benefits

- Cutthroat trout, western brook lamprey, and other native fish and amphibians can now migrate freely between upper and lower Coyote Creek.
- Riparian plantings will provide shade for the stream and reduce water temperatures. The native species used in the project will also help stabilize the bank and create forage and cover for native birds, mammals, and amphibians.
- During high flows, the willows and dogwood will dissipate energy and provide areas of slower velocity in the floodplain for juvenile cutthroat trout.
- In the long run, trees from the upper bank will fall into Jordan Creek and provide additional cover and structure for fish.
- Excluding livestock from the riparian area will protect the new plantings, improve bank stability, and decrease *E. coli* levels in the stream.
- Contractors from the surrounding area were hired for all phases of the project, helping to boost the local economy.

Volunteers help plant trees along Jordan Creek.

The Long Tom Watershed Council serves to improve water quality and watershed condition in the Long Tom River basin through education, coordination, consultation, and cooperation among all interests, using the collective wisdom and voluntary action of our community members.

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