



FERGUSON CREEK STREAM & RIPARIAN RESTORATION AT BRADSHAW VINEYARDS

PROJECT BACKGROUND & DESCRIPTION

This project in Ferguson Creek at Bradshaw Vineyards west of Junction City improved fish passage and habitat for native aquatic species. This site is an important passageway for cutthroat trout and other native fish moving upstream to headwater tributaries that provide spawning gravels and cool-water refuges.

A bridge was built to replace two four-foot diameter concrete culverts that were undersized in relation to the stream width. During high winter flows, water was forced through the pipes, causing high water velocities on the downstream end. Native fish like cutthroat trout and lamprey have a difficult time moving upstream through the fast-moving water.

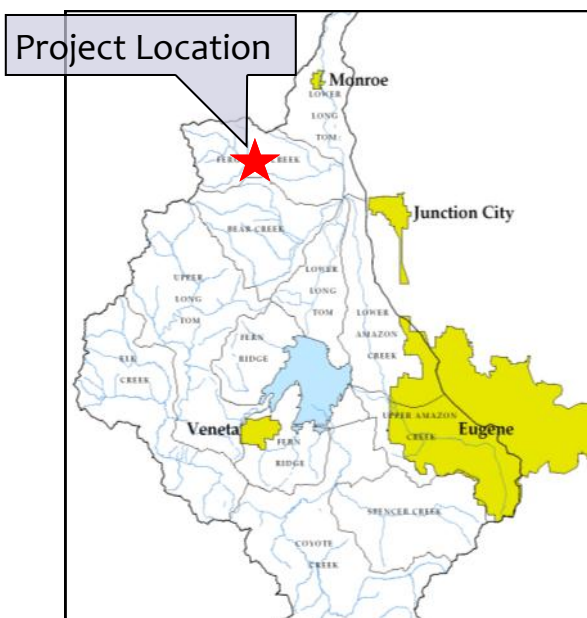
The Council improved habitat in the stream by installing log jams, which create pools by slowing down and varying the stream flow and allow gravels to build up behind them. This creates important habitat for fish and the aquatic insects they eat. An oxbow that provides important habitat during high flows was also re-connected. Native trees and shrubs were planted along the stream, and fencing and off-channel watering troughs will be installed to move livestock back from the stream.



Before the Project: This crossing consisted of two undersized culverts on Ferguson Creek that created a velocity barrier for fish during most flows.



Implementation: With the new bridge in place, agricultural vehicles can now access the vineyard on the other side of the property, and native fish can swim upstream.



PROJECT FUNDING & PARTNERS

Total Project Cost: **\$118,765**

Funding & Partners

- Jim & Maria Bradshaw (landowners)
- Oregon Watershed Enhancement Board (OWEB)
- Oregon Department of Fish & Wildlife (ODFW)
- National Fish & Wildlife Foundation (NFWF)
- Conservation Reserve Enhancement Program (CREP)
- Finley National Wildlife Refuge
- Eugene District Bureau of Land Management (BLM)



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Before the Project: This section of Ferguson Creek (on other side of fence) had few native trees & shrubs along its banks before the site was planted in winter 2013.



Implementation: An excavator places a large conifer log with a rootwad into Ferguson Creek. These logs will create cover and habitat for fish and aquatic insects.

RESTORATION TECHNIQUES

Removed Fish Passage Barrier

- Replaced undersized culverts with 40' long bridge constructed of steel I-beams, wood decking and reinforced concrete abutments.

Enhanced Instream Habitat

- Installed 40 large conifer logs, donated by Finley Wildlife Refuge, throughout 0.6 miles.
- Log jams were created from 3-5 logs, 10 of which had their rootwads attached.
- Log jams were wedged against existing trees or partially buried into the bank to help make them more stable.
- Re-connected oxbow to main channel to provide important habitat during high flows.

Improved Streamside Habitat

- Removed Reed canarygrass, blackberry, and other invasive weeds.
- Planted a mix of native trees and shrubs on over 7 acres.
- Maintenance work will include weed control and mowing between rows of plants and will continue until the plants are free to grow.

ENVIRONMENTAL & ECONOMIC BENEFITS

- Removal of undersized culverts allows native fish year-round access to spawning and rearing habitat of Ferguson Creek basin headwaters.
- Logs placed in the stream increase the depth and frequency of pools trout use for habitat.
- Logs also increase retention of sediment and organic matter that creates habitat for insects and fish. As the logs decompose they provide food for aquatic insects, which are the primary food source for trout.
- Riparian plantings will increase shade in the long-term, leading to cooler water temperature. These trees & shrubs also provide better bank stability and create forage and cover for native wildlife.
- Installation of fencing along the riparian area and watering troughs for livestock will help reduce erosion and bacteria such as *E. coli* from entering the stream.
- Contractors from the local area were used for all phases of the project. This contributes to the local economy.

The Long Tom Watershed Council thanks our partners and funders!