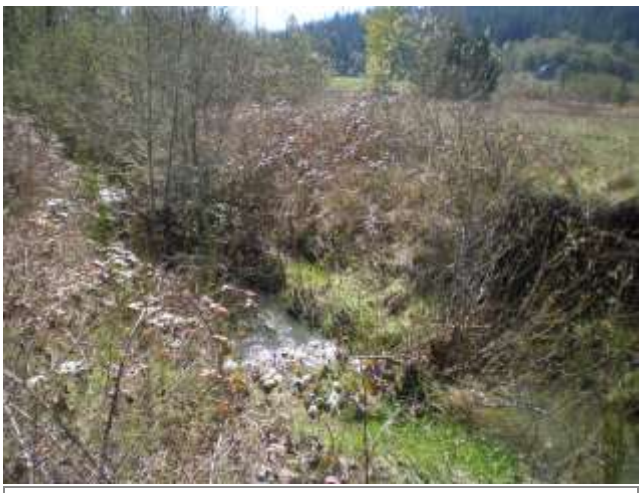
Wet Prairie & Stream Restoration At Murphy's

Project Background & Description

This project restored approximately 40 acres of pasture that was once wet and upland prairie on a site along a tributary to Spencer Creek. The landowners wanted to improve fish and wildlife habitat and take steps to protect their property from future development. The riparian area surrounding most of Spencer Creek has well-developed canopy structure and layers, and the upper portion of the seasonal stream is also well vegetated. However, the lower 1,000 feet of the seasonal tributary was sparsely vegetated and was invaded by non-native blackberry and scotch broom. The lack of shade increases stream temperature, stresses native fish such as cutthroat trout, and impairs macroinvertebrate populations.

The tributary was also straightened in the 1940s, leading to channel scouring and a subsequent disconnection between the stream and its surrounding floodplain. The historic sinuosity and shallow depth of the channel allowed higher flows to spill over the banks and resupply nutrients to the soil.

The existing pasture had many patches of native wet and upland prairie plants, most notably a population of Willamette daisy. These were being invaded by blackberry, scotch broom, and Reed canarygrass. This was especially the case on the west side of the tributary after an undersized culvert failed several years ago, blocking mower access to the west side pasture.



Before the project: This tributary to Spencer Creek lacked instream structural diversity such as large woody debris that creates quality habitat conditions for trout and macroinvertebrates.

Implementation: Large conifer logs with rootwads were positioned in the tributary channel. In addition to enhancing habitat, these logs will help **the channel's flow to naturally meander.**

Project Funding & Support

Project Cost:	$ 173,685
OWEB funding:	$ 68,466
NFWF funding:	$ 15,000
Match (USFWS, NAWCA, Landowner):	$ 90,219

Partners

Ron & Janice Murphy, *Landowners*
Oregon Watershed Enhancement Board (OWEB)
National Fish & Wildlife Foundation (NFWF)
USFWS

Wet Prairie Enhancement at Murphy's

Restoration Techniques

Non-native reed canarygrass, blackberry, and other non-native vegetation was spot-sprayed with herbicide and mowed afterward to mulch dead plant material. Ash trees were thinned in areas targeted for prairie restoration.

Along the riparian area and within the stream, large pieces of conifer logs with rootwads and willow stakes were strategically placed to mimic structures already along the stream and increase channel sinuosity and improve fish habitat. In order to improve channel-floodplain interaction, ditches were filled in and water was re-routed into swales.

A paddock area was expanded adjacent to the landowners' house and barn for their horses. This provided an alternative place for the horses away from the riparian area, which was planted with several species of native trees and shrubs, including Oregon white oak, ponderosa pine, ninebark, and nootka rose.

A railcar bridge was installed over the Spencer Creek tributary to allow maintenance access to the Willamette daisy on the west-side of the tributary.

A seasonal emergent wetland was created in place of several ditches and a large seasonal swale was enhanced to create wet prairie and shore bird habitat.

Local Boy Scout Troop 54 helped plant native trees and shrubs along the riparian area. The blue tubes in the photo reduce herbivory on the young plants and increase carbon dioxide concentration among the leaves.

A crane places a railcar bridge over the tributary to Spencer Creek to allow the landowners maintenance access the property on the west side of the tributary.

Environmental & Economic Benefits

- Removal of invasive non-native plants will increase the biodiversity and percent cover of native prairie grasses and forbs.
- This project contributes to the recovery of Willamette daisy
- Large woody debris and willow plantings will increase channel sinuosity and connectivity between the stream and the surrounding flood-plain.
- Large woody debris will also increase the quality of habitat for macroinvertebrates and juvenile cutthroat trout.
- Moving horses to the paddock area will reduce stream bank erosion and allow native vegetation to grow.
- Contractors from the surrounding area were used for all phases of the project which contributed to the local economy.

The Long Tom Watershed Council thanks our partners