

Project Title: Corral Creek Wetland and Riparian Restoration Tee / Colby Meadows Reach

Project Type: Fisheries/Steelhead Habitat Restoration, Threatened Ecosystems/Wetlands Restoration [see Latah SWCD Five-Year Plan]

Location: Corral Creek, a tributary of the Potlatch River, in Latah County, Northern Rockies Ecosystem [see the Latah SWCD Potlatch River Watershed Management Plan, under Reports and Plans, at www.latahswcd.org]

Ownership: Private land, USDA Forest Service, Clearwater National Forest

Supporters: Landowner
Idaho Office of Species Conservation / Pacific Coast Salmon Recovery Fund [link]
Idaho Department of Environmental Quality / EPA Clean Water Act Funding
USDA Forest Service / Resource Advisory Committee funding
Bonneville Power Administration / NOAA Fisheries Funding [link]

Project Description: Problem: Legacy effects of logging and associated with construction of railroad spur lines, and later, livestock grazing, had degraded water quality and fish habitat. A passage barrier downstream had blocked spawning steelhead from accessing the upper 75 percent of the watershed since 1913. Improvement and expansion of spawning and rearing habitat for steelhead (ESA-listed threatened) is a priority in the Potlatch River watershed [link to Clearwater Subbasin Plan, Potlatch River Watershed Management Plan, Idaho Department of Fish and Game annual Potlatch River fish inventories]. During logging operations in the early 1900s temporary rail lines, known as shay lines, were constructed throughout the meadows of the Potlatch River Watershed. Using the shay lines, crews moved logs from the woods down into and through the meadows, on to the main rail yards and rail lines, and eventually to the mills. The railroad berms persist throughout the Corral Creek watershed, criss-crossing the meadow and the historic channel. Early in the 1900's the flow of the East Fork of Corral Creek was diverted from its channel and captured in borrow ditches associated with the shay lines and main line. This inadvertent straightening of the stream channel degraded water quality and eliminated steelhead rearing habitat. The higher velocity of flow in the straightened channel caused bank and bed erosion, adding sediment and degrading downstream water quality. Because of the deeper, straighter channel, the connection with the adjacent floodplain was impaired and the water exited the system too quickly to allow historic levels of infiltration and storage. The existing private road increased soil compaction in the wet meadow and was steadily being eroded into the adjacent ditch. Solution: In 2009 a series of channel or "ditch" plugs were constructed to create diversions and wetland cells. By diverting the flow back into the shallower, more sinuous historic channel, the flow of the East Fork of Corral Creek has been slowed, hydration of the meadow and frequency of flood events has increased in the meadow system, and because of the pool habitat in the historic channel, habitat for juvenile steelhead has increased. Wetland habitat was also improved by converting the wide, deep, eroded ditch into a series of wetland cells, which further detains water in the meadow system and increases recharge. Following construction, areas of bare soil were seeded with a mix of native grasses and forbs and planted with native grasses, forbs, sedges, rushes, bulrushes, and woody species. All bare areas were stabilized following seeding,

using sedge mats or mulch. A new road was included in the restoration plan to remove the traffic from the meadow, reducing compaction and further improve meadow hydrology. Sedge mats were harvested during construction of the new roadbed, and stored on-site until they could be laid on the ditch plug slopes. Livestock exclusion fencing was installed in 2010 to protect the majority of the historic East Fork of Corral Creek and the newly-created wetland area. To further draw the cattle out of the meadow, the landowner selectively logged some of the adjacent timber ground to open the canopy and improve forage in the uplands. Two ponds were constructed in the uplands in 2011 to provide water and further draw and retain the cattle in the uplands. Planting has continued for several years to revegetate construction areas, restore the wetlands, and stabilize cutbanks. Photo points were established to document changes in vegetation. Groundwater and surface water elevations are also being monitored [see Latah SWCD water monitoring project description].

Status: Active. Instream construction, road construction, fence installation, and pond construction are complete. Minor repair work was done in 2011 and 2012. Minor supplemental revegetation is scheduled for 2013.



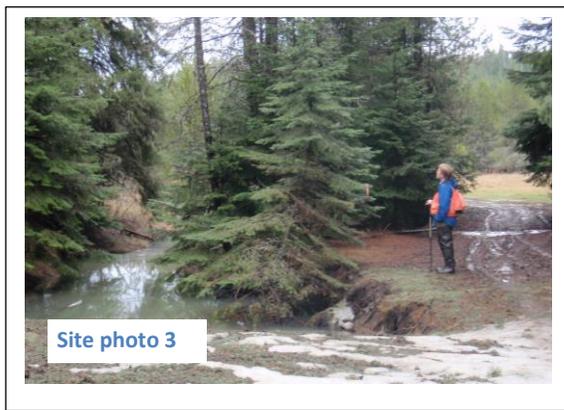
Two repair sites in Colby Meadow. Ditch plugs were installed in the eroding ditch to create wetland cells to reduce erosion, increase infiltration, and create wildlife habitat. Before on left; after on right.



Repair site in Colby Meadow. Ditch plug 8 (foreground in site photo 3) was installed in the ditch to create wetland cells to reduce erosion, increase infiltration, and create wildlife habitat. Top two photos show prior condition; site photo 3 was taken the spring following completion of the ditch plug; site photo 4 taken the following fall, following installation of livestock exclusion fencing.



Left, newly-constructed ditch plug. On right, ditch plug the first spring following construction: sedge sodmats were laid on the face of the plug and the top was seeded and mulched.



Repair site along private road, which was later decommissioned. Ditch plugs have been installed upstream and downstream of this location to reduce erosion and create wetland habitat. Site photo 1 is before construction; Site photo 4 was taken in July 2012. The eroding right bank in site photo 4 was covered with sedge sodmats in fall 2011.



Harvesting sedge. Sedge sodmats were used to revegetate the slopes of the ditch plugs and other eroding sites. Sedge was transported to site in layers in the trailer, then pulled off and placed by hand, jig-saw fashion, to cover the bare soil.