

Muddy River Habitat Improvement Project Closeout Report

Project Title: Muddy River Habitat Improvement

Agency: US Forest Service
Gifford Pinchot National Forest
Mount St. Helens Ranger District

Project Manager: Adam Haspiel, (360) 449-7833,
ahaspiel@fs.fed.us

Project Approved By: Aquatic Coordination Committee

Project Funding:	ACC funding	\$117,000
	FS funding	\$109,000
	Partner funding	\$ 39,000
	Project Total	\$265,000

Project Description (work completed): The Gifford Pinchot National Forest used PacifiCorp, funding to supply equipment, operators and labor for construction of habitat restoration structures in the mainstem Muddy River, thinning of riparian areas, and controlling invasive weeds

Instream Work. Instream work consisted of several components. The first component was to stabilize eroding streambanks while creating overwintering juvenile salmonid habitat using Large Woody Material. The second component was to create floodplain nurse logs.

Two hundred and twenty-two logs in 20 structures were placed to stabilize eroding banks and create fish habitat. An additional 22 logs were used to create floodplain nurse log structures complex structures to restore fish habitat and stabilize streambanks.

The main objective of this portion of the project was to stabilize eroding streambanks. Key pieces of



wood at each location were anchored into the streambanks using an excavator to dig trenches up to 45 feet long, and bury the wood. Other pieces of LWM were interwoven into these key pieces and riparian vegetation. Structures were designed to redirect floodwaters off the eroding area and back into the mainstem. Over 1,000 two year old conifer seedlings were planted in in and around the structures to provide long-term stabilization of the area. Structures also provide winter rearing habitat for juvenile Chinook, coho and steelhead.

Twenty-two old growth size logs were buried in the flood plain to create nurse logs that would allow sediment to accumulate behind them, provide a cooler and wetter area to encourage riparian vegetation growth, and provide long-term floodplain stabilization. Structures were placed using a contractor with a skidder and large excavator.

Invasive Weeds. Invasive weeds were controlled by several methods. Urban youth were engaged several times during the summers of 2008, 2009 and 2010 to pull Scotch Broom near the Muddy River Picnic site. A contract was awarded to Skamania County Weed control crew to spray herbicide on approximately 300 riparian acres over a three year period to control Scotch Broom. Areas treated were along the Muddy River between Smith Creek and Clearwater Creek, and the confluence of Clear Creek upstream 1.2 miles.

Riparian Thinning. Riparian thinning occurred on 334 acres in the Muddy River from the confluence of Clear Creek to Smith Creek. Alders were thinned in dense stands to promote healthier and larger Alder trees and to open areas around existing conifer saplings. The riparian thinning was performed using a contract crew that used chainsaws to complete the work

Partners

Mount St. Helens Institute (MSHI) Youth

Stream Team: This grant led to development of the Youth Stream Team. This team consists of students interested in the aquatic environment from diverse backgrounds, some of which are at risk youth and others are from urban communities. This is part of the goal of the USFS “Kids Back in the Woods” program. MSHI Stream Team youth implemented the monitoring along with college interns with USFS oversight. They used survey equipment including flow meters, gravel-o-meters, and studied macro-invertebrates in Muddy River.

PacifiCorp

Swift Community Action Team

Ecotrust

Workforce:

Adam Haspiel, USFS Fisheries Biologist
Bryce Michaelis, USFS Fisheries Technician
Mark Ferraiolo, MSHI Fisheries Technician
Rocky Pankratz, USFS Stewardship-TSI Program Manager
Andrea Ruchty, USFS Botanist

Contractors:

Twin Peaks.
Carson, WA.

Skamania County Weed Crew
Stevenson WA.

Mt. St. Helens Reforestation Inc.
Chehalis, WA.

Problems Encountered:

Water velocity in Muddy River was fast enough that it was hard to keep the 100 foot oil absorbent boom in place without building rock weirs with the excavator to support mid sections.

First batch of conifer seedlings were frozen at the nursery, but they did not know this and sent them to us anyway. They died shortly after planting, so they provided replacement seedlings which were replanted successfully.





1. Streambank stabilization structure under construction



2. Streambank stabilization structure under construction



3. Logs prepositioned for work on right bank



4. Completed streambank structure



5. Scotch Broom after application of herbicide treatment

Location-Muddy River Floodplain near Smith Creek



6. Scotch Broom after herbicide treatment

Location Muddy River Floodplain



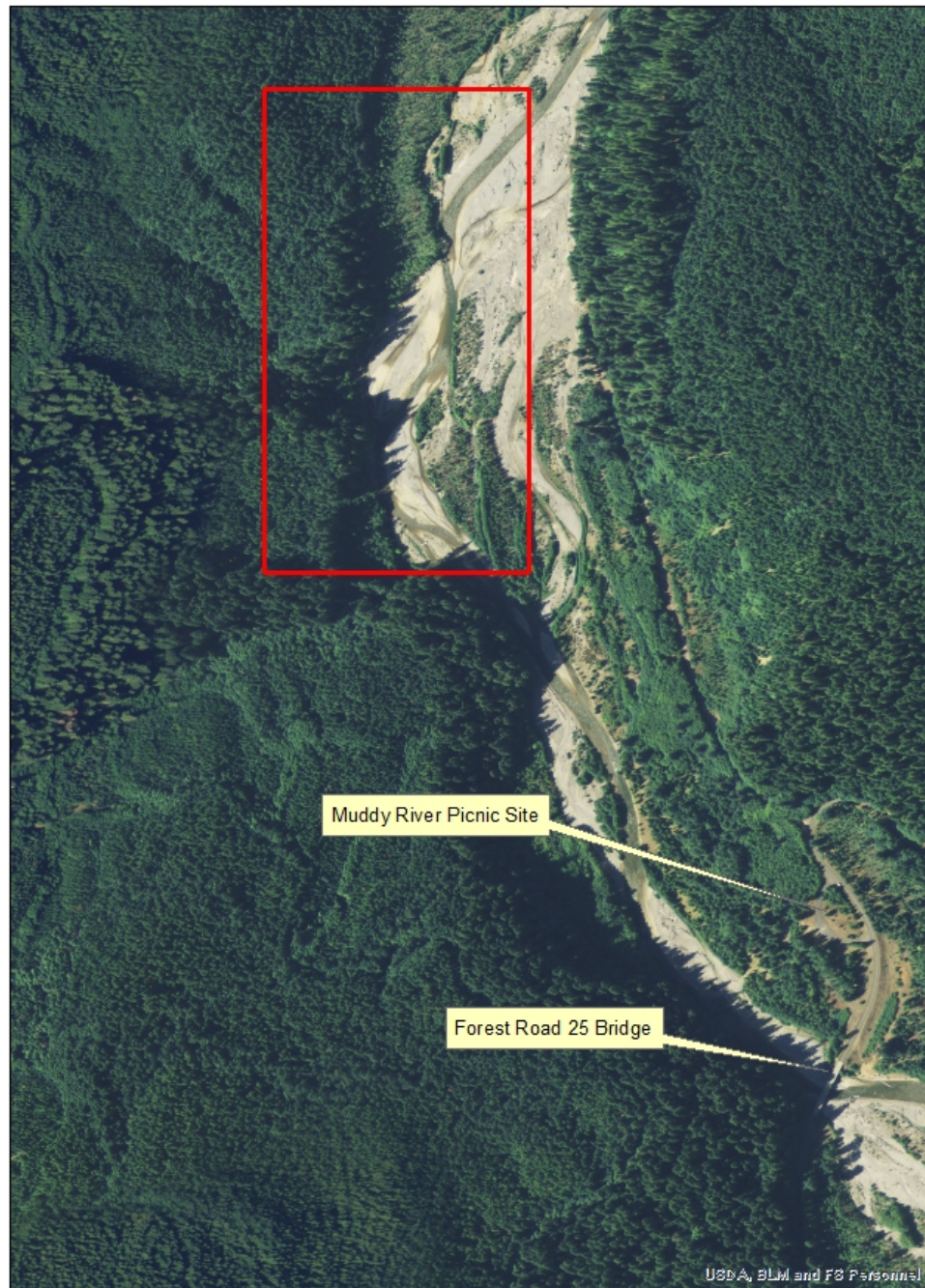
7. Scotch Broom after application of herbicide treatment

Location-Muddy River Floodplain near Clearwater Creek

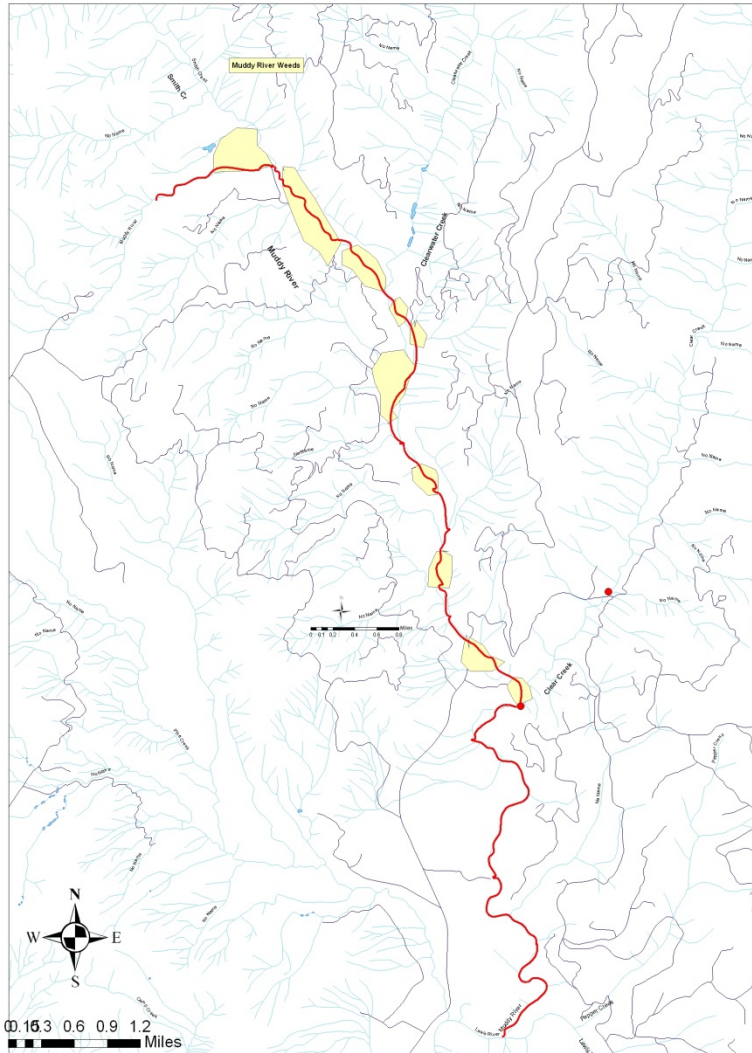


8. Typical view of a thinning treatment unit after thinning

**Muddy River Habitat Improvement Project
Instream Project Location**



0 237.5 475 950 1,425 1,900 Feet



Map 1. Weed Treatment Map 1



Gifford Pinchot National Forest, MSHNVM
Stewardship Program

Subitem Photo & Information Sheet

Project: Forest Thinning FY2009

Item No.: One

Unit Name: Riparian Thin Muddy River #1 Subitem Number: 1.18 Stand Tag: N/A

Township: 8N Range: 6E Section(s): 15 Quad ID: SCBU

Project Acres	Slash Disposal		Cut Tree Size		Spacing	Brush Treatment	Species Preference	Riparian Buffer Width	Elevation	Slope
	Acres	Width	Min. Feet Height	Max. Inches DBH						
81	.55	25'	4*	7*	16X16	Cut Overtopping Brush*	Cut no Pacific Yew*	0*	1600	3%

Remarks:

***See attached for species preference, riparian buffer width, and other special provisions.**



Project Area		Slash Disposal Area		Riparian Buffer	
Driveable Road		Closed Road		Stream	





Gifford Pinchot National Forest, MSHNVM

Stewardship Program

Subitem Photo & Information Sheet

Project: Forest Thinning FY2009

Item No.: One

Unit Name: Riparian Thin Muddy River #2 Subitem Number: 1.19 Stand Tag: N/A

Township: 8N Range: 6E Section(s): 14,15

Quad ID: SCBU

Project Acres	Slash Disposal		Cut Tree Size		Spacing	Brush Treatment	Species Preference	Riparian Buffer Width	Elevation	Slope
	Acres	Width	Min. Feet	Max. Inches DBH						
82	0	0'	4*	7*	16X16	Cut Overtopping Brush*	Cut no Pacific Yew*	0*	1560'	3%

Remarks:

***See attached for species preference, riparian buffer width, and other special provisions.**



Project Area		Slash Disposal Area	XXXX	Riparian Buffer	
Driveable Road		Closed Road		Stream	





Gifford Pinchot National Forest, MSHNVM
Stewardship Program

Subitem Photo & Information Sheet

Project: Forest Thinning FY2009

Item No.: One

Unit Name: Riparian Thin Muddy River #3 Subitem Number: 1.20 Stand Tag: N/A

Township: 8N Range: 6E Section(s): 14,15

Quad ID: SCBU

Project Acres	Slash Disposal		Cut Tree Size		Spacing	Brush Treatment	Species Preference	Riparian Buffer Width	Elevation	Slope
	Acres	Width	Min. Feet Height	Max. Inches DBH						
171	0	0'	4*	7*	16X16	Cut Overtopping Brush*	Cut no Pacific Yew*	0*	1440'	3%

Remarks:

***See attached for species preference, riparian buffer width, and other special provisions.**



Project Area		Slash Disposal Area	XXXX	Riparian Buffer	
Driveable Road		Closed Road		Stream	

