Citizen Road and Trail Condition Survey and Monitoring Project

2011 Accomplishment Report

Olympic Forest Coalition
in collaboration with
Olympic National Forest
and
Great Old Broads for Wilderness
Polly Dyer/Cascadia Broadband

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January 2012

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Introduction

According to the Olympic National Forest, watershed restoration is the primary land management strategy in the forest at this time. Different components of the Northwest Forest Plan identify the importance of "watershed restoration [that is] designed to address past disturbances by treating roads (decommissioning, upgrading, modifying, etc)." This work has been severely underfunded, resulting in a huge road maintenance backlog. In 2008 Congress created Legacy Roads and Trails, a dedicated fund to help address the Forest Service's neglected road system while undertaking watershed restoration.

Monitoring and surveying road and trail conditions on the ground is essential for identifying and prioritizing needed treatments. Although the Olympic National Forest (ONF) has treated many miles of road to reduce or eliminate their contribution to degraded aquatic conditions, parts of the road and trail system that cannot be reached by automobile are still under-monitored.

The Olympic Forest Coalition (OFCO) developed and implemented the Citizen Road Surveying and Monitoring Project as a viable way to collect information on these roads and trails. In addition, this project provides an excellent opportunity to educate citizens about road conditions and land management practices that have the potential to harm or degrade aquatic systems, as well as ways to work to eliminate these risks.

Hikers and conservationists from the local chapter of Great Old Broads for Wilderness (the Polly Dyer/Cascadia Broadband) participated as volunteer road and trail surveyors for this project. OFCO provided the volunteers with training in using GPS, compass, and data forms; and the Broads provided the boots on the ground. OFCO lead for this program, Shelley Spalding, is a retired U.S. Fish and Wildlife Service fish biologist with knowledge of the relationship between land management activities and habitat requirements of salmonids.

Project Location

All road surveys were conducted in the South Fork Skokomish watershed on Forest Service land. This watershed is located in Mason County and Grays Harbor County, in Washington.

Background

In 2010, OFCO selected the South Fork Skokomish watershed as the pilot watershed for our road survey and monitoring project. The SF Skokomish had one of the highest road densities on the forest, at roughly 3.6 miles per square mile in 1996, with seven of the thirteen subwatershed having densities over 4.0 miles per square mile (Stoddard 2004). Major flood events since the early 1990's have resulted in extensive damage to streams as a result of numerous road-stream crossing and fillslope failures. Extensive clearcut logging since the 1920's has led to a severely aggraded streambed and chronic flooding along the lower river floodplain, impacting private residences and the Skokomish Tribe. Historically the Skokomish River had the most significant salmon and steelhead runs in Hood Canal. Now many of those stocks have been listed as threatened or endangered under the Endangered Species Act.

Although the Olympic National Forest, beginning in 1991, completed numerous road-related restoration projects in the SF Skokomish, substantial funding for this type of work was not available until Fiscal Year 2008, when Congress authorized the Legacy Roads and Trails Program and allocated the US Forest Service (USFS) $40 million to begin its implementation. This program is intended to reduce road and trail impacts to watersheds and aquatic ecosystems by decommissioning unneeded roads, removing fish passage barriers, and addressing critical repair and maintenance needs. The initial focus by the ONF for watershed trail and road remediation projects has been in the South Fork Skokomish River.

In 2011, OFCO's Citizen Road Survey and Monitoring Project continued surveys in the SF Skokomish watershed with a focus on trails and proposed new temporary roads. Specifically, the focus for 2011 was two-fold: 1) document the condition of roads that have either been converted to trails or are proposed for conversion to trails; and 2) provide baseline surveys of unclassified roads that will be used for log hauling with the planned Upper SF Skokomish timber sale.

In 2010 over 4 miles of roads were converted to trails. Through decommissioning and conversion of selected road segments to trails, the South Fork Skokomish River will benefit from reduced road-related sediment to the river channel. Critical spawning and rearing habitat for several salmon and trout species, including bull trout, Chinook and coho salmon, steelhead, and sea-run cutthroat trout, will be enhanced. The targeted trails were surveyed to document that the conversions from roads were done in such a manner as to eliminate sediment and to determine if further adjustments have occurred to the stream channel or its margins. Surveys of roads proposed for conversion to trails documented current conditions and features that will need to be addressed.

The ONF is planning an approximately 1000 acre thinning sale in the upper South Fork Skokomish. Associated with this sale, 3.6 miles of unclassified (no longer in use) roads will be brought up to log-haul standards by the logging contractor and then decommissioned by the contractor to the pre-logging condition (pull culverts or sidecast that were necessary for the logging). OFCO will provide surveys both pre- and post-logging, as well as during the time when the log-haul roads are in use. For 2011, we conducted baseline surveys of several unclassified roads that will be converted to temporary roads for the logging. This information will help the Forest Service and other interested parties to assess the potential impacts from re-opening roads that have not been

used for decades and for determining how adequately these roads can be treated post-logging in order to prevent future sediment delivery to streams.

The Skokomish watershed is unique in that there is an active partnership of federal, state, county, local and tribal governments, land managers, conservation and non-profit groups, and watershed residents. This group, the Skokomish Watershed Action Team (SWAT) developed a plan targeting watershed restoration primarily through the decommissioning and stabilization of roads and trails. OFCO's Citizen Road Survey and Monitoring Project compliments the SWAT's restoration work by targeting the SF Skokomish for surveys. We have worked closely with the Olympic National Forest while developing this project and have had numerous meetings with the forest hydrologist to target and prioritize road and trail survey sites. It is anticipated that the information gathered by the project will assist the ONF and other agencies when making decisions that could affect the aquatic health of Olympic Peninsula rivers.

Methods

Several attributes were used by OFCO to develop a strategic approach to citizen monitoring and surveying, including road/trail position (i.e., road proximity to a stream), number of stream crossings, aquatic species at risk, Forest Service inventory, and subwatershed health.

In the summer of 2011, OFCO and the Washington chapter of Great Old Broads for Wilderness (the Polly Dyer Cascadia Broadband) teamed up to conduct the walking surveys of Forest Service roads and trails. OFCO trained nearly a dozen volunteers from the Broadband in data collection, GPS use, map and compass reading, and identification of features such as landslides, non-functioning culverts, and tension cracks that can contribute sediment to streams, thus posing risks to water quality and threatened or endangered fish.

OFCO developed a survey protocol and data sheets that were adapted from Wildlands CPR "Legacy Roads Citizen Monitoring" updated April 2009 and the Great Old Broads for Wilderness "Healthy Lands Project" May 20, 2009. See Appendix A for Survey Protocol and data sheets.

Results

"Road to Trail Conversion" Surveys – July 30, 2011

FSR 2353140 – Ruth Abad and Dorothy Gist

Forest Service Road (FSR) 2353140 is a road decommission with conversion to trail project. Project work will occur between MP 0.0 to 1.2. Decommissioning work will involve removal of all culverts, pullback of unstable road fill, and construction of drainage features such as cross ditches. Trail

construction work will include construction of: two trail bridges, trail tread, and rock and log berm at the trail entrance to prevent vehicle access.

The contract for this project will be awarded in the summer of 2011. The contract allows for implementation to occur over a two-year period. The contractor could opt to begin work this year or wait until next year.

Emphasis for photo monitoring is to document before and after site conditions at stream crossings and other "wet crossings". One of the stream crossings is within resident fish habitat and is the location of a 60-foot bride site. Another smaller stream crossing will be the location of a smaller bridge. Monitoring at the two bridge locations is recommended. In addition to capturing water feature sites, it would be good to photo document the general trail construction and trail entrance.

Most of the road was in good condition for conversion to trail with mostly native plants and little sign of dispersed camping. After the first quarter mile the road became a shady trail with lovely wildflowers. It had been used by both hikers and horseriders.

There were two areas on the road with large landslides. The first was within a quarter mile of the beginning of the road and the slide took out at least half of the road bed.

At the end of the road there was a large washout as the stream crossed the road. When walking on the trail after the end of the road, the surveyors noted an old metal culvert. Surveyors commented that, "Much of the old road probably doesn't need much work. Lovely walk with slight decline most of the way."

FSR2355100 – Laura Schleyer and Shelley Spalding

FSR 2355100 was a road decommissioning with conversion to trail project implemented in 2008. Channel adjustments have occurred at trail water crossings that have resulted in damage to the trail. At one water crossings channel erosion has resulted in undermining of the trail fillslope and associated trail tread. Forest Service recreation staff will likely be coordinating with Washington Trail Association volunteers to implement repair work at this site.

The first half mile of this trail is on an open (non-forested) hillside. There are numerous locations in this section where there is erosion or undercutting of the trail. Once the trail enters the forest damage to the trail ends.

A seasonal creek runs down the trail before draining off the trail and cutting downslope into the ravine beyond the trees.

Water from an upslope spring is cutting across the trail and causing extensive erosion, highlighting how unstable fill slopes can be even when converted to a trail.

At this last site before the trail enters the forest, there is an upslope rock slide which is down-cutting the margin of the trail.

FSR 2361210 – Sharon Davidoff and Bo McFadden

Access to this road is via FSR 2361 200. FSR 2361210 MP 0.0 is toward the right beyond an earthen berm. On July 8th, when an invasive plant inventory was being done, the botanist saw a cougar who growled at her and then ran off. The 2.7 mile hike to the gorgeous Pine Lake has an overall moderate grade of 4-5 percent. There are lots of invasive plants on this closed road. The ONF is currently working to restore native vegetation at Pine Lake by removing the invasive reed canary grass.

Berm at beginning of road

4X6 notebook in tension crack along side road

The surveyors noted a dozen culverts in various states of functionality – from fully functioning to fully not-functioning.

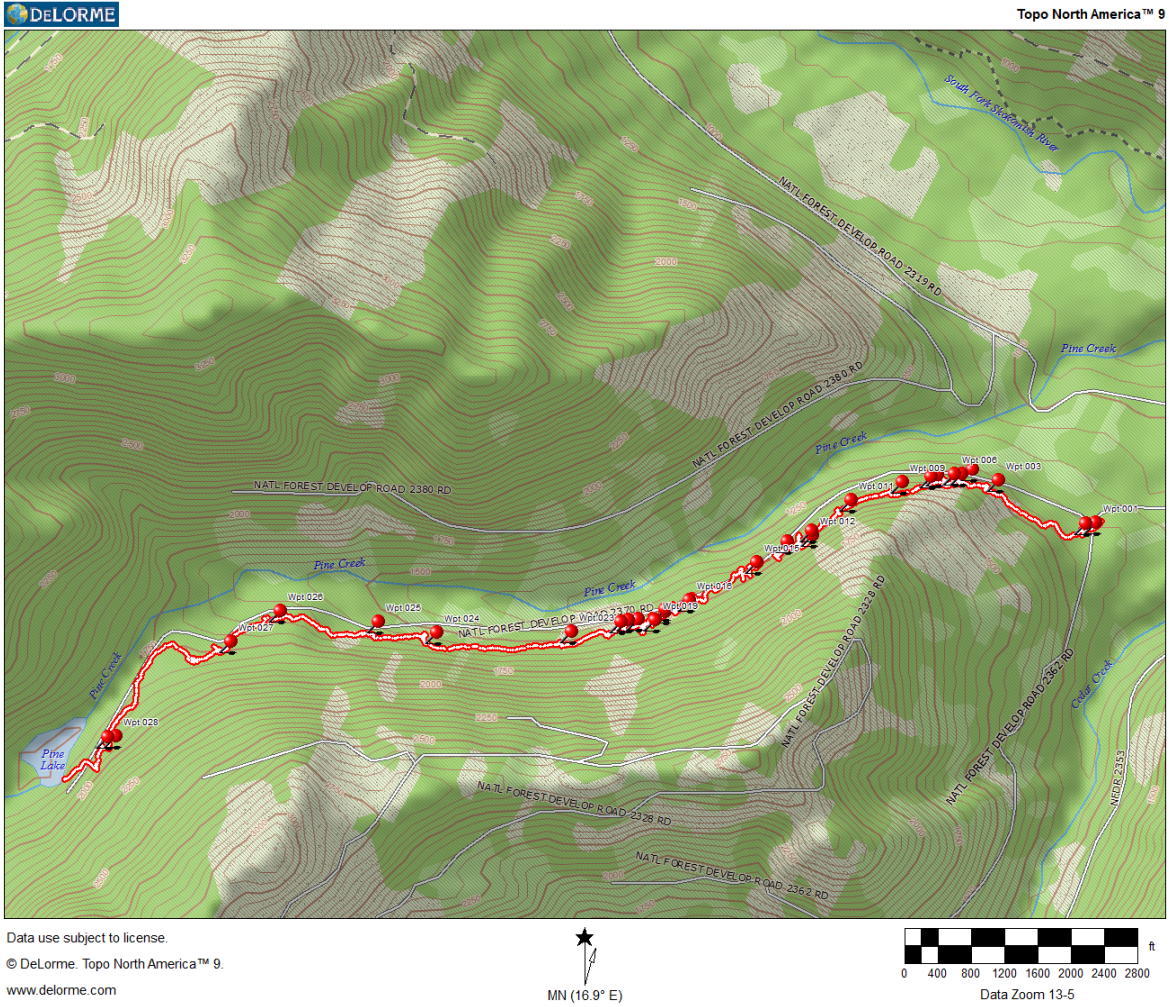

Photo and GPS waypoints of FSR 2361210

The surveyors' final destination was lovely Pine Lake.

FSR 2351500 and 2351510 – LouEllyn Jones and Carole Warneke

FSR 2351500 and 2351510 are road decommission projects. Project work will occur on FSR 2351500 between 0.0 and 0.13 and on FSR 2351510 between 0.0 and 0.74. Decommissioning work will involve removal of all culverts, pullback of unstable road fill, and construction of drainage features such as cross ditches. The priority location for photo monitoring for this project is the culvert stream (Rock Creek) crossing located on FSR 2351500 at MP 0.1. This site currently has an 8 foot diameter culvert with a drop at the culvert outlet that is a barrier to resident fish. The project work at this site will involve removal of the existing culvert, regrading of the stream channel for 100 or more feet upstream of the culvert inlet, restoration of the channel in the vicinity of the culvert, and placement of boulders and wood in the channel and on channel margins within the area of the newly excavated channel. This project is an approved project under the Legacy Road and Trail Program funds, but the Olympic National Forest did not receive funds for this project in Fiscal Year 2011.

The following 5 photos were taken from the stake with pink flagging on FSR 2351500, looking in different directions:

Looking down at culvert inlet. Stream is mostly sub-surface. Direction: 150°

Lots of erosion and debris flow. Direction: 230°

Looking down on culvert outlet. Saw a chipmunk going through the culvert!

Steep cut on north side of stream showing lots of erosion. Direction: 250°

Direction: 250°

FSR 2351510

As the road becomes steeper, gullies are forming from erosion in the roadbed. At end of the road there were signs of dispersed camping, including a fire ring and trash.

Temporary haul road: Pre-construction survey and monitoring – Sept. 26, 2011

The Olympic National Forest is currently underway with environmental analysis for the Upper SF Skokomish Vegetation Management Project (commercial thin). Several miles of old non-system or previously decommissioned roads will need to be reconstructed as a temporary road for the timber sale and then closed following completion of the sale. Monitoring will focus on "before, during, and after' surveys to document how effective the road closure treatments are in preventing sediment to streams.

Weather was very heavy rain during the survey.

FSR 2300280
Date decommissioning completed, if applicable: Not decommissioned

Note: This road is partially within the Riparian Reserve

Road approach: Recontoured? No

Is there a barricade, berm, or sign? No
If yes, is it effectively blocking access? Yes_____ No _____

Is there dispersed camping at entrance? Yes - about 100' from entrance

Does the road visually disappear? Partially

Road use: What is the type and amount of use on the road?

Foot: None _____ Medium _X____ Heavy _____

Motorized: None (past the camping area) Medium use from 2300 000 to 2300 280 dispersed camping site

Notes: The road leads to an open area that has been used for dispersed camping. From the open area the road nearly disappears as it heads downhill towards the SF Skokomish River. It is well vegetated with native plants, including numerous small cedar trees.

Photo #: 1 Direction: 300°
UTM Coordinates: N 47° 26.100' W 123° 23.400'
Notes: Dispersed camping area

Photo #: __2___ Direction: 300°
UTM Coordinates: N 47° 26.100’ W 123° 23.400’
Notes: road as it leaves the open dispersed camping area.

Photo #: 3 Direction:260°
UTM Coordinates: N 47° 26.110’° W 123° 23.337’
Notes: Fork in road at junction of 2300280 (left) and 2300260 (right). Very overgrown and difficult to distinguish

Photo #: 4 Direction: 180°
UTM Coordinates: Same as for Photo # 3

Photo #: 5 Direction: 20°
UTM Coordinates: N 47° 26.098’ W 123° 23.334’
Notes: Very large, late successional douglas fir approximately 35’ from road bed

Photo #: 6 Direction: 255°
UTM Coordinates: Same as Photo # 5
Notes: Looking downhill as road continues

Photo #: 7 Direction: 210°
UTM Coordinates: N 47° 26.096’ W 123°23.280’

Notes: Looking downhill towards end of identifiable road bed

Photo #: 8 Direction: 250°
UTM Coordinates: Same as Photo # 4
Notes: Small cedars growing in the roadbed

FSR 2361300

Date decommissioning completed, if applicable: Not decommissioned

Road approach: Recontoured? No

Is there a barricade, berm, or sign? No. The road is so overgrown with trees and brush that is difficult to locate

Is there dispersed camping at entrance? No

Does the road visually disappear? Partially

Road use: What is the type and amount of use on the road?

Foot: None

Motorized: None

Photo #: 9 Direction: 120°
UTM Coordinates: N 47° 26.554’ W 123° 25.566’
Notes: Descend road down hillside from edge of 2361000

Photo #: 10 Direction: 120°
UTM Coordinates: N 47° 26.543' W 123° 25.588'
Notes: Road merges with surrounding vegetation and roadbed disappears after a short distance.

Photo #: _11 Direction: 115°
UTM Coordinates: N 47° 26.548 W 123° 25.563'
Notes: Possible berm at beginning of the road

FSR 2356000

This is not a closed or decommissioned road. Extensive storm damage risk reduction work has recently been completed on this road and it is actively being used. It is quite wide, ditched, and new culverts in place.

Photo #: 13 Direction: 240°
UTM Coordinates: N 47° 25.031' W 123° 25.732
Notes: Beginning of road

Photo # 14 Direction: 315°
UTM coordinates: N 47° 24.139' W 123°26.108
Notes: ~ Mile Post 8.0

Photo # 15 Direction: 322°
UTM Coordinates: N 47° 24.200' W 123° 26.026
Notes: Ditch with clean water runoff

Photo #16 Direction: 305°
UTM Coordinates: N 47° 24.392 W 123° 25.789
Notes: Very steep slope adjacent to the road – both uphill (photo) and downhill

Photo #17 Direction: 355°
UTM Coordinates: N 47° 24.519 W 123° 25.507'
Notes: Ditch along road with sediment laden run-off

Photo #18 Direction 200°
UTM Coordinates: Same as Photo # 17
Notes: Although it was raining very heavily, this creek was flowing very clear. Creek crosses under the road.

Summary

Of the four roads and trails identified for surveys in 2011, all showed varying signs of failures and in need of treatments. The three proposed haul roads surveyed are the first part of a multi-year project to document effectiveness of final treatment for preventing sediment to streams. It is hoped that the information gathered by the Citizen Road and Trail Condition Survey and Monitoring Project will assist the ONF and other agencies as they prioritize restoration projects and make decisions that could affect the aquatic health of Olympic Peninsula rivers.

Acknowledgements

Robin Stoddard, ONF Hydrologist, provided her time, knowledge and enthusiasm – all of which helped make these surveys successful

We also want to thank our hardy volunteer road and trail surveyors:

Great Old Broads (and Bros) for Wilderness

Sharon Davidoff
Bo McFadden
Timm Tripp
Michael Pierce
LouEllyn Jones
Ruth Abad
Dorothy Gist
Laura Schleyer
Carole Warneke

And last but not least, our thanks to **Oil Can Henry** in Shelton, who kindly gave complementary car washes to the volunteers' very dirty post-survey cars.

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