

**Project Title:** Streamside Forest and Large Woody Debris Characteristics in Burned and Unburned Ponderosa Pine/Douglas-Fir Forests

**Project Leader:** Sherry Wollrab

**Participating Research Contacts:** Kerry Overton

**Participating Forests/Grassland Contacts:** Krassel Ranger District, Payette National Forest

**Funds** (approximate)

**Total Project Cost:** \$104,540

**Timeframe (within 2001-2005):** 2001-2004

**2003:** \$36,000

**2004-2005:** \$15,000

**Progress from 2002-2003:** (Description of work accomplished; attach more detailed description, map, or pictures that could be used for tech transfer on the web or w/in compiled monitoring report.)

During 2002-2003, we collected data in streamside forests and streams for four unburned and three burned streams in the South Fork Salmon and Big Creek watersheds. Our work focused on streamside forest structure and composition, and instream large woody debris structure and dynamics within ponderosa pine/Douglas-fir streamside forest types(see photo below). These streamside forests are represented by historically frequent/low or mixed intensity fire regimes. Thus, we want to describe the implications of fire exclusion, as well as fire, on these systems to provide managers with useful information for effects analyses and assessment of alternatives for fire management in streamside forests. Our objectives are to:

- 1) Characterize and contrast stand structure and composition, and LWD dynamics and structure in burned and unburned streamside forests.
- 2) Describe relationships between streamside stands and instream LWD.
- 3) Evaluate methods and variables that will improve LWD and streamside forest assessment and monitoring.

To address objectives 1 and 2, we collected data for 12 systematically located, 50 m stream reaches and within 50 m x 20 m plots in adjacent ponderosa pine/Douglas-fir streamside forests, along both sides of the stream. Our focus in the stream sampling was large woody debris because of its important role in stream systems, linkage to streamside forest structure, and potential for being affected by fire dynamics.

For objective 3, we conducted intensive continuous sampling overlapping the systematically spaced plots to evaluate whether the spaced plots adequately represent the stream and streamside forest parameters of interest. In addition, Charlie Luce (see adaptive management project entitled "Indicators and Monitoring Approaches for

Understanding Effects of Wildfire on Stream Ecosystems”) used different sampling methods to collect similar data on an overlapping section of stream. These data will be used to examine the strengths and shortfalls of each method and provide recommendations to the Forests for sampling streamside forests and instream large woody debris.

Coordination with the Payette National Forest has been ongoing since 2001. In May 2003, three personnel (myself, Charlie Luce, and David Pilliod), working on R1/R4 Adaptive Management and Monitoring Projects with study areas on the Payette National Forest, coordinated a visit to the Krassel Ranger Station. We presented the status of our projects, shared information, and received feedback. This project was also presented at a Region 4 meeting, and to NOAA fisheries and Fish and Wildlife personnel in 2002, and at the R1/R4 Adaptive Management and Monitoring meeting in January 2003.

Data from both this year and last have been entered into a spreadsheet and analysis has been initiated. A detailed report addressing objective 1, characterization, is currently being finalized. A synthesis of literature pertaining to streamside forest and LWD dynamics has been completed and will be available as part of the report.

**Plans for 2004:** (Description of work.)

Data analysis, summaries, and reports will continue in 2004, depending upon funding availability. A presentation on the project is planned for the Western Division American Fisheries Society in February 2004.

**Products and/or tech transfer expected in 2004:** (Incl. Web links if you have them)

- Presentation at Western Division American Fisheries Society (Feb. 2004)
- Report on characterization of burned and unburned streamside forests and LWD, including a literature synthesis, to be distributed at Regional meetings, and through the World Wide Web (Jan. 2004)
- Presentation to Payette National Forest on progress and results (spring 2004)
- Presentations at Regional workshops (as scheduled).
- Update of the Fire and Aquatic Ecosystems Bibliography (<http://www.fs.fed.us/rm/boise/teams/fisheries/fire/bibliography.htm>)
- Participation on a team addressing forested RHCA/RCA management in relation to PACFISH/INFISH monitoring

**Issues that need discussion with the R1/R4/RMRS Steering Group?:** (list)

Approximately \$15,000 was lost from this project from fire transfer in 2003. Because the Regions had indicated this money could be carried over and should be used for the full life of the project, the funding was intended to support the principal investigator (Sherry Wollrab) through the analytical and reporting phase of the project. The PI working on this project is supported largely on soft money; therefore, the loss of the funding means that the position will have to be supported through other work. If funding is not returned

in FY04, the analysis and reporting cannot be completed and the initial investment in the project of more than \$104,000 will be severely impacted.



Cabin Creek, Payette National Forest - a burned ponderosa pine/Douglas-fir streamside forest