

North Pacific Landscape Conservation Cooperative FY2014 Project Full Proposal

Project Title: Implementing climate-smart resource management across multiple ownerships in southwestern Oregon

Lead Agency: U.S. Forest Service

Principal Investigator: David L. Peterson

Address: U.S. Forest Service, Pacific Northwest Research Station, 400 N. 34th St., Suite 201, Seattle, WA 98103

Telephone: (206) 732-7812

Email: peterson@fs.fed.us

Cooperators:

Name/ Affiliation/ Contribution or Role

Jessica Halofsky, University of Washington, Co-Principal Investigator

Gwyneth Myer, Southern Oregon Forest Restoration Collaborative, Co-Principal Investigator

Louisa Evers, Bureau of Land Management, Coordinator for activities on Bureau of Land Management lands

Kerry Metlen, The Nature Conservancy, Coordinator for all aspects of the project including communication

Ken Wearstler, Rogue River-Siskiyou National Forest, Coordinator for activities on Forest Service lands

General Public Summary:

Multiple agencies and organizations in southwestern Oregon have made significant progress in collaborative restoration of forest landscapes and in projecting climate change effects and adaptation responses. *We will build on these efforts by moving proposed activities forward using a climate-informed framework.* Specifically, we will (1) implement “shovel-ready” restoration projects using climate-smart management practices, (2) prioritize additional proposed restoration projects informed by a recent climate change assessment, and (3) mainstream climate-smart thinking in federal planning efforts. These activities will ensure that restoration in southwestern Oregon is resilient to future climatic variability and change.

Project Objectives:

- 1) Implement recommendations from the *Rogue Basin Action Plan for Resilient Watersheds and Forests in a Changing Climate* in resource management and planning.
- 2) Link key vulnerabilities with specific adaptation strategies and tactics on the ground.
- 3) Link adaptation with restoration, planning, and resource monitoring programs across multiple land ownerships.
- 4) Develop science-based, climate-smart options for ecological restoration in collaboration with resource managers and stakeholders.

Management Objectives:

- 1) Implement restoration projects that integrate climate-smart practices, a proof of concept for southwestern Oregon.

- 2) Prioritize restoration projects in the Rogue Basin using a recent climate change assessment and adaptation plan and other ongoing efforts focused on restoration and adaptation in the region.
- 3) Mainstream climate-smart thinking in federal planning, thus ensuring effective responses to climate in southwestern Oregon.

Project Description:

The project encompasses the entire Rogue Basin (1.6 million hectares; Figure 1), including the Rogue River-Siskiyou National Forest (642,000 hectares), BLM Medford District (348,000 hectares), and private lands (578,000 hectares). Home to many endemic plant species, the Rogue Basin has the highest vegetative diversity in

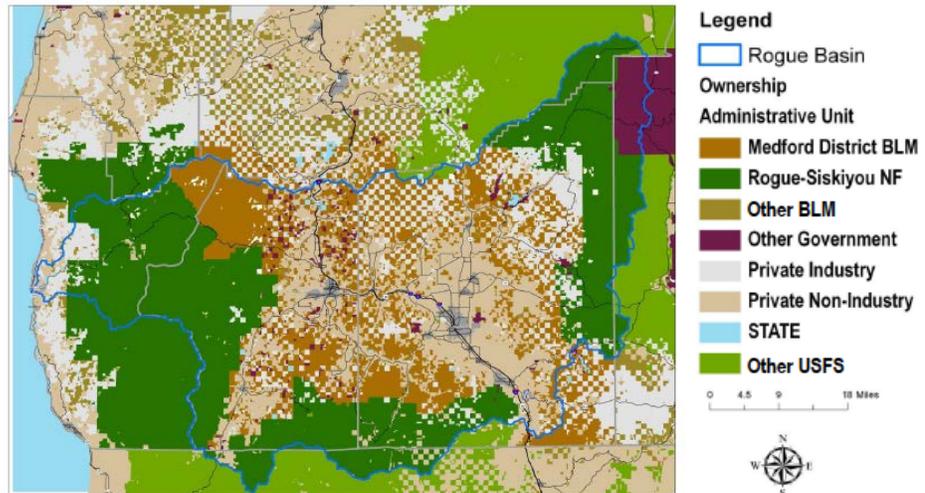


Figure 1. Land ownership in the Rogue Basin.

the NPLCC. The Rogue Basin includes portions of the Klamath-Siskiyou Ecoregion, one of seven International Union for Conservation of Nature areas of global botanical significance in North America, and has been proposed as a World Heritage Site. Southwestern Oregon is also the warmest region of the NPLCC and has the most species to lose in a warmer climate. In 2013, southwestern Oregon experienced the largest area burned in the history of the region (190,000 hectares), an early warning of the scale of disturbance expected in the future.

The pervasive nature of climate change, expected changes in ecological disturbance, and need for habitat connectivity dictate that conservation of biodiversity in this region use an all-lands approach to maintain ecosystem resilience over large spatial and temporal scales. Adaptation, restoration, and conservation in this climatically-sensitive region must proceed in the context of a long legacy of forest harvest, fire suppression, and environmental conflict about land use.

We build on a project led by the Southern Oregon Forest Restoration Collaborative (SOFRC) that resulted in a climate change action plan for watersheds and forests in the Rogue River Basin in southwestern Oregon (Myer 2013; Figure 2). We will build on the science-management partnership developed by SOFRC, including federal line officers, planners, and resource specialists. The project will involve the following federal and non-governmental organizations: U.S. Forest Service,

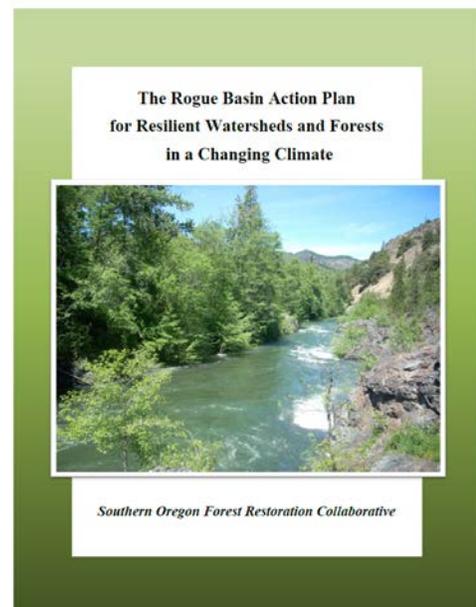


Figure 2. A recent climate change assessment and action plan for the Roague Basin.

Bureau of Land Management, The Nature Conservancy, Institute for Natural Resources, Lomakatsi Restoration Project, and possibly others. This diversity is possible because the SOFRC has created an environment in which these organizations are already working together. The disciplinary expertise of participants includes ecology, forestry, hydrology, wildlife biology, social science, and planning. By bringing together diverse participants to review the action plan and other assessments in the region, we will improve understanding of the potential effects of climate change in the Rogue Basin, and evaluate proposed restoration activities in the context of climatic stressors.

Objective 1. Implement restoration projects that integrate climate-smart practices —

Although projects that address restoration, hazardous fuel reduction, and ecosystem services are common in the Pacific Northwest, to date they have rarely been implemented in the context of a warmer climate (e.g., Halofsky et al. 2011, Raymond et al. 2013). In addition, many projects are difficult to implement because of the long duration of project preparation and review. In collaboration with SOFRC, we have identified three “shovel-ready” projects that can be informed by climate-smart thinking. Moving from planning to project implementation improves resilience across broad landscapes and demonstrates that collaborative efforts are an effective means of accomplishing broad goals for landscape restoration in the context of climate change.

Two projects are on BLM land, one in the Butte Falls Resource Area, and one in the Ashland Resource Area. Both projects are focused on restoration, including stem density management and surface fuel reduction. We have communicated with BLM District Manager Dayne Barron, who is supportive of the SOFRC restoration approach which targets management strategies that consider climate change and provision of ecosystem services.

The third project is in the Table Rocks area which contains 1200 hectares of pine-oak and chaparral habitat, and is a BLM Area of Critical Environmental Concern. Here BLM works with The Nature Conservancy (TNC), Lomakatsi Restoration Project, and Klamath Bird Observatory to restore oak woodland habitats. A detailed analysis by TNC has quantified current habitat condition and evaluated opportunities for restoration (Schindel et al. 2013; Figure 3).

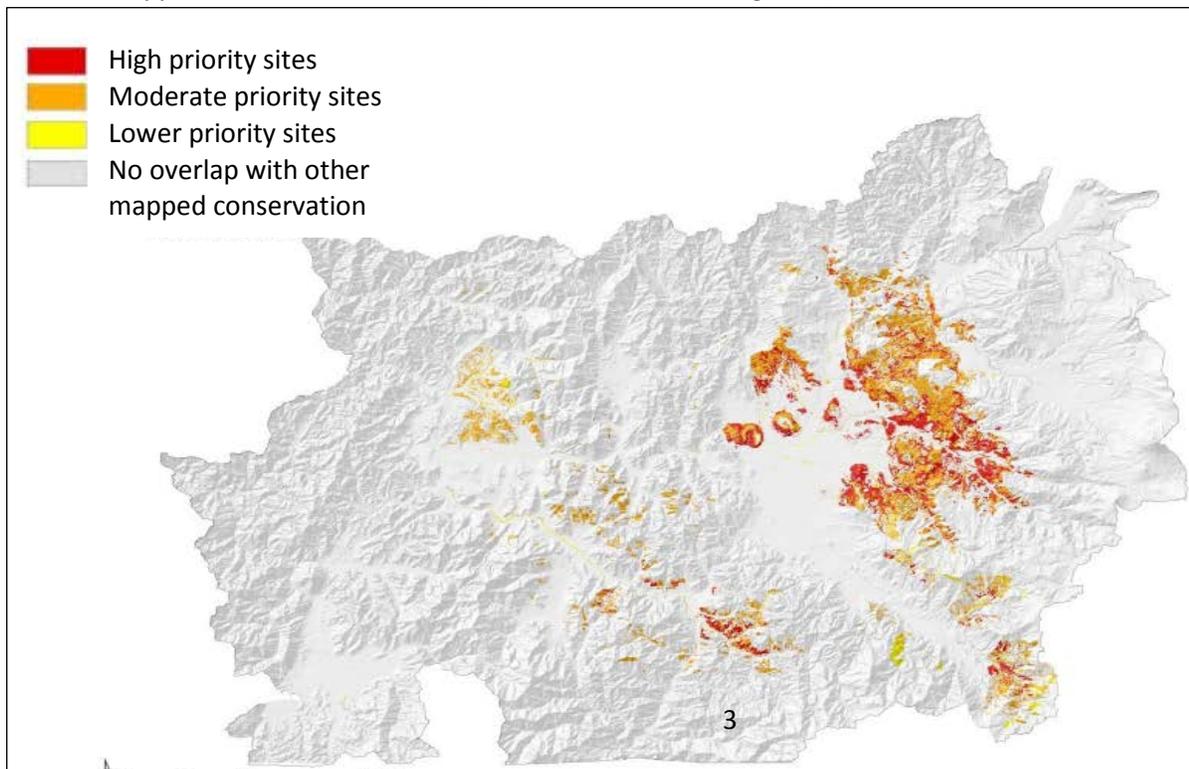


Figure 3. A prioritization map for white oak restoration from a recent analysis by The Nature Conservancy in the Rogue Basin.

Federal resource managers and planners will participate in a process that explicitly considers climate change effects and how they can be integrated in planning and project management. In light of potential climate change sensitivities, we will identify: (1) objectives and prescriptions that can be modified if appropriate, (2) alternatives that enhance resiliency or adaptive capacity to a changing climate, and (3) location-specific issues relative to climate change effects. Then decision tools such as the Climate Project Screening Tool (Morelli et al. 2012), which has been used successfully in identifying opportunities for climate-smart pathways for management, will be used to adjust the scope and content of project activities. This approach goes beyond simply refining locations and actions by encouraging planners/managers/stakeholders to include climate change in their thinking and decisions.

Objective 2. Prioritize restoration projects in the *Rogue Basin Action Plan* —

We will work with resource managers to conduct a geospatial analysis that identifies priority locations for adaptive actions, ensuring relevance for different management and planning processes. First, we will integrate geospatial analyses conducted as a part of the SOFRC project in order to provide a regional perspective on restoration options. Second, we will convene a workshop for resource managers and stakeholders to elicit expert knowledge on regional priorities. Workshop discussions will highlight where the greatest risks are and where ecological and economic value can be obtained. Third, the above information will be used to develop a prioritization scheme for restoration in the Rogue Basin.

We will use the SOFRC integrated restoration approach developed for the Illinois Valley assessment to inform the prioritization process—this assessment focuses on resilient forests with sustainable timber output (economically-viable ecological restoration that increases resilience). Expansion of the SOFRC analysis to the entire Rogue Basin will build on its success in the Illinois Valley, which facilitated reopening of a local mill. We will also use the SOFRC ecosystem services valuation focused on biodiversity, water, and carbon values, incorporating conversations with stakeholders about their values. In addition, maps from the Integrated Landscape Assessment Project (<http://oregonstate.edu/inr/ilap>) will be used in conjunction with climate and vegetation models to assess climate change risks. Finally, the TNC and EcoTrust return-on-investment approach will highlight priority areas and economic risks. These four approaches will be overlain to assess high-risk areas that would benefit from treatment—and areas with the highest ecological and economic values—all with climate projections incorporated.

Objective 3. Mainstream climate-smart thinking in federal planning in southwestern Oregon —

It has proven challenging to integrate vulnerability assessments and adaptation plans in federal resource planning efforts and documents. SOFRC participants have already discussed this topic and want to fully mainstream climate-smart thinking in planning. Therefore, *we will work with landowners and stakeholders to develop an integrated adaptation-restoration-monitoring strategy for the Rogue Basin.* Specifically, we will convene a small workshop for Forest Service and BLM land managers focused on how climate-smart strategies and ecosystem services can be incorporated in planning. The workshop will review lessons learned from Objectives #1 and #2 above, identifying science-based actions and processes that will make climate-smart restoration consistent and defensible, informed by ongoing monitoring. Only through this open dialogue can climate change be mainstreamed in agency operations.

This is one of several climate change projects involving national forests and other federal lands in Washington and Oregon, including the Olympic Peninsula (complete), North Cascadia (complete), Blue Mountains (nearly complete), northwest Oregon (in process), south-central Oregon (starting in 2015), southwest Oregon (starting in 2015 or 2016), and southern Washington (starting in 2016). This provides an opportunity to continually engage federal managers and to effect implementation of climate change principles in planning and management. In the Rogue Basin, we will work with BLM resource managers on incorporating climate-smart language into their resource management plan. The SOFRC is well positioned to provide input on this process. As national forests update their land management plans, we can also work with them on incorporating climate-smart language and principles. The SOFRC is hosting a workshop in the Rogue Basin in July to work with agencies to incorporate benefits derived from ecosystem services into decision making while explicitly considering climate change projects—this will provide an opportunity to jump-start the current project, establish relationships, and influence planning efforts.

In summary, *this project will emphasize recognition of climate risks in the Rogue Basin and identify actions to address those risks* (see Figure 4 for summary of tasks and project milestones). Collaboration across ownerships and mainstreaming of climate-smart management as part of agency operations will increase implementation of restoration projects, especially in critical locations of the Basin. Due to the combined threats of climate and other stressors, *building resilience in ecosystems* will be more effective than simply adapting to climate change. It will not be possible to maintain resource conditions at a historical target; rather, management will need to transition systems to conditions that will be sustainable in a warmer climate. We will be able to facilitate implementation because existing partnerships are so well established, scientific information is plentiful, and a shared vision for creating resilient landscapes exists throughout the Rogue Basin. We will accelerate this process through coordination of multiple efforts across different land ownerships, thus institutionalizing an enduring dialogue around climate-smart management.

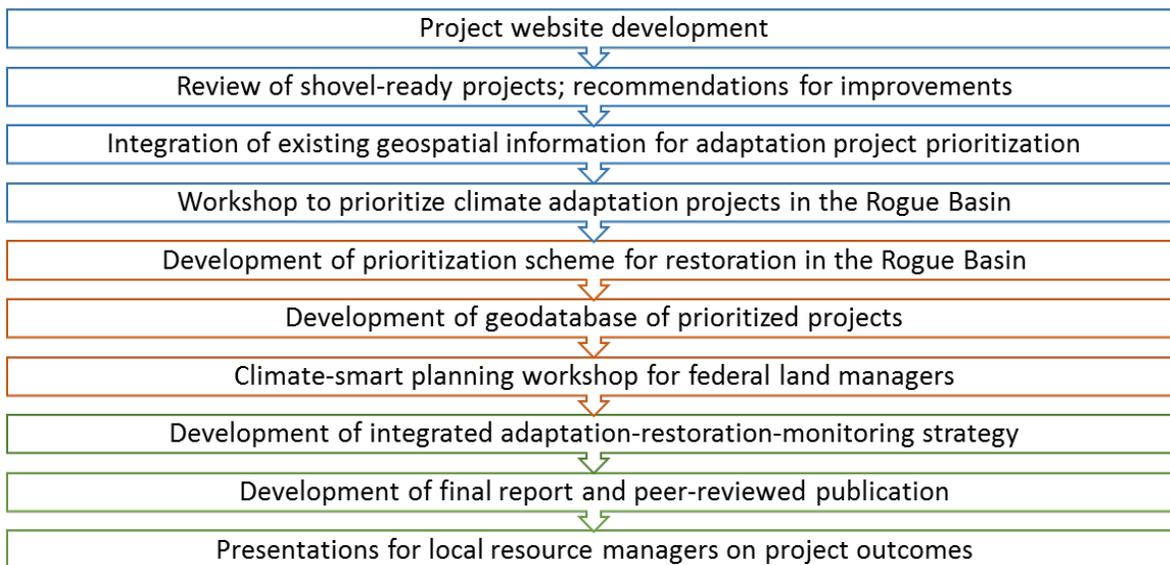


Figure 4. Summary and flow of major project tasks and milestones. Box colors indicate timing of task/milestone, with blue indicating months 1-6, orange indicating months 7-12, and green indicating months 13-18.

Expected Project Length: 18 months

Communication:

This project is founded on partnerships already established by SOFRC. Two workshops for these partners will elicit expert knowledge and maintain ongoing dialogue and input throughout project development and implementation. Activities and results will be disseminated via a project website, and communicated through frequent conference calls with partners.

Sharing experiences and lessons learned is critical for propagating knowledge and interest about climate change adaptation, and we fully support that. First, Climate Solutions University (www.mfpp.org) will host a webinar for us to address their regional and national communities. They recently posted a story about the SOFRC partnership with the U.S. Forest Service (<http://www.mfpp.org/local-community-and-u-s-forest-service-jointly-create-climate-adaptation-plan>). Second, we will give a presentation for national forest climate change coordinators in Washington and Oregon as part of their monthly webinar series, thus allowing us to reach all corners of the Pacific Northwest. Third, through their current positions as facilitators of climate change projects in the Pacific Northwest and other parts of the West, Peterson and Halofsky will connect with many national forests, national parks, and other organizations, allowing for rapid dissemination of information from this project.

Project Products.

A. Six Month Products:

1. Interim status report
2. Workshop (#1) for agencies and stakeholders to develop priorities for climate adaptation projects
3. Website that communicates progress and outcomes of the project, serving as a focus for ongoing dialogue about climate change and conservation in the region

B. Twelve Month Products:

1. Year 1 status report
2. Workshop #1 report
3. Geodatabase that includes spatial information used in the project analysis and resulting maps, made publicly available on the project website
4. Workshop (#2) for federal land managers to determine how climate-smart strategies and ecosystem services can be incorporated in planning
5. Workshop #2 report

C. Year 2 Products:

1. Final report
2. Peer-reviewed publication focused on forest ecosystems in the Rogue Basin that associates climate change vulnerabilities with management strategies and tactics at specific locations in the watershed
3. Integrated adaptation-restoration-monitoring strategy for the Rogue Basin
4. Presentations for local resource managers and stakeholders on the outcomes of the project, focused on catalyzing future collaboration and on-the-ground action

Budget

	Year 1	Year 2
Requested Funds:		
Salaries	39,431	
Supplies		
Equipment		
Travel	4,500	
Contracts	2,000	
Overhead	3,630	
Sub-total	49,561	
Matching Funds:		
Source 1 (USFS)	19,022	
Source 2 (BLM)	7,000	
Source 3 (TNC)	7,500	
Source 4		
Grand Total	83,083	

Salaries. 3 months salary & benefits for J. Halofsky; 800 hours salary for G. Myer.

Travel. Travel costs for PIs for communication; travel costs for workshop participants.

Contracts. Covers expenses for facilities and facilitation of two workshops.

Overhead. Indirect cost (14%) on \$25,431 to U.S. Forest Service for J. Halofsky salary, (conveyed to Univ. Washington through an agreement [0% IC]), travel, and contracts.

Matching funds. USFS contributed salary (D. Peterson, K. Wearstler); BLM contributed salary; TNC contributed salary (K. Metlen).

Disclaimer regarding data sharing:

There are no known restrictions on sharing of data expected to be generated in this project.