United States
Department of
Agriculture

Forest
Service

Pacific Northwest
Region

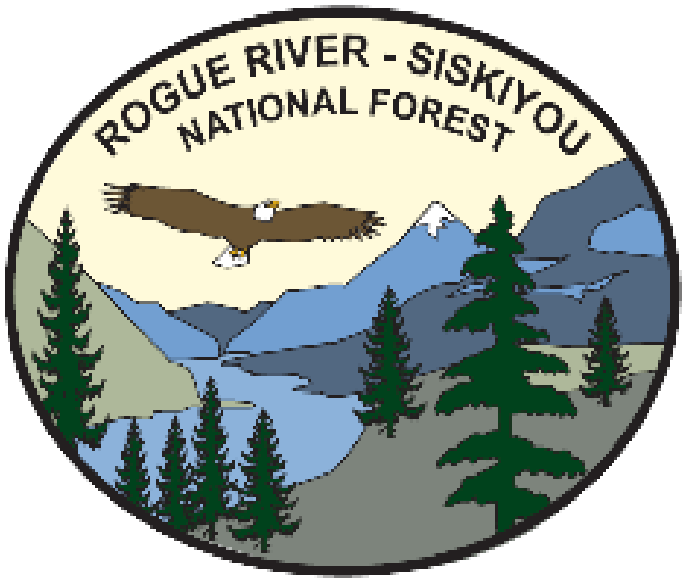
September 2015

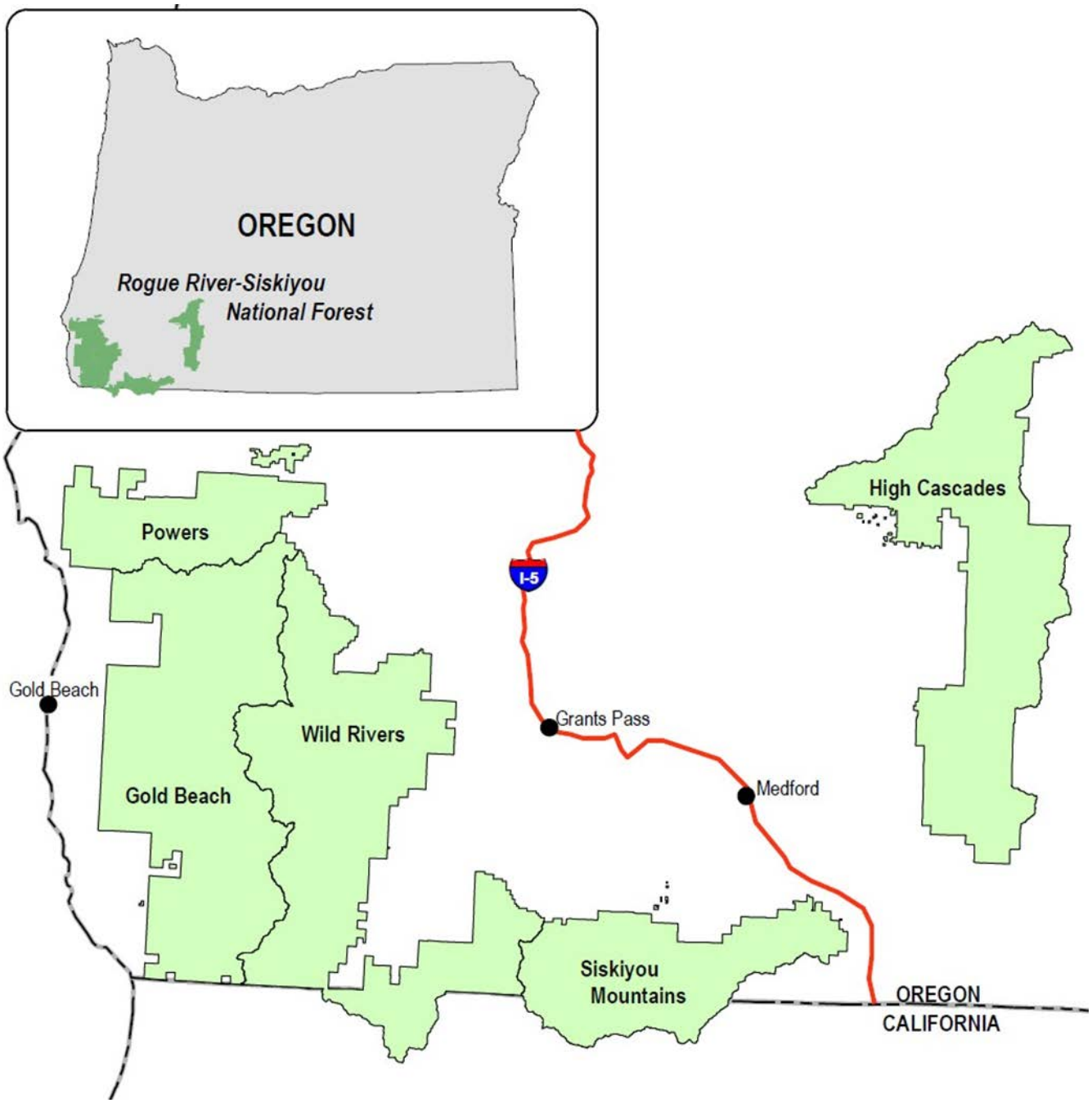
Rogue River-Siskiyou National Forest

Land and Resource Management Plans

Monitoring and Evaluation Report

Fiscal Year 2014





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Introduction

Background

The Rogue River National Forest Land and Resource Management Plan (Rogue River Forest Plan) became effective in 1990 (USDA Forest Service 1990*b*). The Siskiyou National Land and Resource Management Plan (Siskiyou Forest Plan) became effective in 1989 (USDA Forest Service 1989*b*).

These Forest Plans provide direction for integrated management of the resources of each National Forest. Forest Plans are implemented through projects designed to be consistent with their direction and land allocations. Monitoring is an integral part of the Forest Plan. Projects and programs are monitored for consistency with the plan and to test the validity of the plan itself. There is provision for amendment of the Forest Plan where monitoring shows a need for change or when changes in laws and regulations occur.

On April 13, 1994, the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl (Northwest Forest Plan) was signed by the Secretary of Agriculture, Mike Espy and the Secretary of the Interior, Bruce Babbitt. The Northwest Forest Plan amended the Rogue River and Siskiyou National Forest Land and Resource Management Plans and provided new direction for management of the natural resources of the Forests (USDA Forest Service and USDI Bureau of Land Management 1994*b*).

This ecosystem plan, also known as the Northwest Forest Plan, was significant because it provided a watershed-based approach to management of Federal lands within the range of the northern spotted owl. The future management of late-successional and old-growth forests, recovery of the northern spotted owl and an Aquatic Conservation Strategy to restore aquatic ecosystems are central parts of this Plan. Whenever the term “Forest Plan” is mentioned in this document, it refers to the Rogue River and/or Siskiyou National Forest Land and Resource Management Plans as amended by the Northwest Forest Plan.

In December 2003, the Forest Service Washington Office approved administrative consolidation of the Rogue River and Siskiyou National Forests. Reference is made throughout this Monitoring Report to the Rogue River-Siskiyou National Forest as applicable. When reference is made to the Rogue River Forest Plan or land management direction applicable to the Rogue River National Forest, the phrase Rogue River National Forest continues to be utilized. When reference is made to the Siskiyou Forest Plan or land management direction applicable to the Siskiyou National Forest, the phrase Siskiyou National Forest continues to be utilized.

Throughout this report, reference is made to certain organizational units of the Forest as Ranger Districts. Reference is made to the Powers Ranger District, the Gold Beach Ranger District (former Chetco and Gold Beach Ranger Districts), the Wild Rivers Ranger District (former Illinois Valley and Galice Ranger Districts), the High Cascades Ranger District (former Prospect and Butte Falls Ranger Districts), and the Siskiyou Mountains Ranger District (former Applegate and Ashland Ranger Districts).

Monitoring reports track implementation of the forest plans. This report documents selected monitoring efforts and evaluation of forest plan implementation during fiscal year (FY) 2014 (October 1, 2013 to September 30, 2014). This report generally covers Forest Plan monitoring elements and is a summary of selected reports and monitoring efforts. It is not a report of all of the programs or program accomplishments on the Forest.

Forest plan monitoring is an ongoing process. The Rogue River-Siskiyou National Forest is continuously monitoring and evaluating new information and changing conditions. Monitoring activities and results have been summarized in annual monitoring reports for several years. This report is the latest of several Forest Plan Monitoring and Evaluation Reports previously prepared for each National Forest. These documents are available to the public upon request.

Forest Plan Monitoring Strategies

The Monitoring Strategy for the **Rogue River National Forest** became effective in 1990 with the signing of the Forest Plan. Chapter 5 of the Rogue River Forest Plan contains a summary of the monitoring and evaluation of Forest Plan implementation. The monitoring strategy was based on that summary and on the detailed monitoring worksheets contained in the planning record.

The Rogue River National Forest Monitoring Strategy Update is a distillation and improvement of the key components of the 1990 strategy. The strategy defines the items to be monitored and contains the Forest goals, outputs and desired future conditions, key monitoring questions, units of measure, frequency, proposed monitoring methods, standards, and assigned responsibilities.

The Monitoring Strategy Update was completed in January 1997, and is available as a separate document from the Rogue River-Siskiyou National Forest Supervisor’s Office. Monitoring and Evaluation Reports for the Rogue River National Forest have been based on this Monitoring Strategy Update since 1997.

The monitoring strategy for the **Siskiyou National Forest** first became effective in 1989 with the signing of the Forest Plan. Chapter 5 of the Siskiyou Forest Plan contains a summary and table for the components of the monitoring and evaluation program. The monitoring and evaluation program for the Siskiyou National Forest has been guided by that document since 1989 and several annual reports have been prepared and are available upon request.

Monitoring Strategy for FY2014

The last monitoring report prepared by the Rogue River-Siskiyou National Forest was for FY 2013. This report will cover monitoring for FY 2014. New regulations were promulgated in the 2012 Planning Rule (77 Fed. Reg. 21,162 (2012)) requiring the Forest to implement the new forest plan monitoring requirements within 4 years from effective date of the new rule or, as soon as practicable, to meet the provisions of title 36 Code of Federal Regulations (CFR) § 219.12(c)(1). The Forest expects to comply with these new requirements by 2016, unless unique circumstances (e.g. litigation, major fires, or other demands that create major demands on the local workforce) require delay of implementation. Until such time as described above, forest monitoring will comply with requirements of the 2010 planning rule. The requirements introduced in 2010 require "a description of the plan area's contribution to the achievement of applicable outcomes of the Forest Service national strategic plan."

> 36 CFR 219.11 (f) Annual monitoring and evaluation report. The responsible official must prepare a monitoring and evaluation report for the plan area within 6 months following the end of each fiscal year. The report must be maintained with the plan documents (Sec. 219.30(d)(5)), and include the following: (1) A list or reference to monitoring required by the plan; and (2) A summary of the results of monitoring and evaluation performed during the preceding fiscal year and appropriate results from previous years. The summary must include: (i) A description of the progress toward achievement of desired conditions within the plan area; and (ii) A description of the plan area's contribution to the achievement of applicable outcomes of the Forest Service national strategic plan.

Federally appropriated funding for monitoring and monitoring reports has been minimal over the previous few years. As with previous monitoring reports, reporting is done on specific elements of the respective monitoring strategies, rather than preparing a complete report on all monitoring elements. The goal of this approach is to provide meaningful data on elements actually monitored, rather than to generate incomplete information on all elements. In addition, several specific inventory and monitoring projects were conducted in FY 2014, with appropriated funding. This report includes summaries of those projects.

Monitoring and Evaluation

Monitoring and evaluation in the Pacific Northwest Region (Region 6) is designed to be reactive to the major transformation molding the agency nationally, and inherent to society as a whole. The scope and importance of activities on or near the national forests have become significant to "everybody." In this context, monitoring exists to serve management. For that reason, the Rogue River-Siskiyou National Forest and Region 6 strives to put monitoring and evaluation in the context of "adaptive management."

For the purpose of this report, Forest Plan monitoring is done to measure progress in Forest Plan implementation. It consists of gathering data, making observations, and collecting and disclosing information. Monitoring is also the means to determine how well objectives of the Forest Plan are being met, and how appropriate the management standards and guidelines are for meeting the Forest's outputs and providing environmental protection. Monitoring is used to determine how well assumptions used in the development of the Forest Plan reflect actual conditions.

Monitoring and evaluation may lead to changes in practices or, provide a basis for adjustments, amendments, or Plan revisions. Monitoring is intended to keep the Forest Plan dynamic and responsive to change. Upon evaluation of the data and information, determinations are made as to

whether or not planned conditions or results are being attained and when they are within Forest Plan direction. When a situation is identified as being outside the limits of acceptable variability, changes may need to occur.

While monitoring and evaluation comprises the control system over management activities on the Forest, each has a distinctly different purpose. Monitoring is gathering information and observing management activities. Forest Plan monitoring on the Rogue River-Siskiyou National Forest has been organized into four levels:

Implementation Monitoring is used to determine if the objectives, standards, guidelines, and management practices specified in the Forest Plan are being implemented. In other words, "Did we do what we said we were going to do?"

Effectiveness Monitoring is used to determine if the design and execution of the prescribed management practices are effective in meeting the goals, objectives, and desired future condition stated in the Forest Plan. Simply stated, "Are the management practices producing the desired results?"

Baseline Monitoring is designed to characterize the existing or previously existing condition for comparison with future monitoring or predicted conditions. In some cases this can refer to an initial inventory or set of measurements taken at the beginning of monitoring efforts. This type of monitoring is useful as a starting point or comparison for the other types of monitoring and can form a basis for trend detection.

Validation Monitoring is used to determine whether data, assumptions, and coefficients used to predict outcomes and effects in the development of the Forest Plan are correct. Again, stated another way, "Are the planning assumptions valid, or are there better ways to meet Forest Plan goals and objectives?"

Evaluation is the analysis and interpretation of the information provided by monitoring. Evaluation is the feedback mechanism identifying whether there is a need to change how the Forest Plan is being implemented to comply with existing direction or whether there is a need to change Forest Plan direction itself through amendment or revision.

Typically, several years of effectiveness and validation monitoring results are needed to permit meaningful evaluation of trends against baseline data. For this reason, this report contains few results on the effectiveness of the standards and guidelines or the validity of Forest Plan models and assumptions. It emphasizes the question, "Did we do what we said we were going to do?" as well as reporting progress that is being made on answering questions of effectiveness and validation.

Monitoring Results

Part One: Selected Forest Plan Items for the FY 2014 Report

This section presents the results and evaluation of the selected Forest Plan monitoring items that were monitored during FY 2014, for the Rogue River and Siskiyou National Forests. Each monitoring item is briefly described by the monitoring category, group and the individual goals and objectives that comprise the monitoring item. Also brought forward are selected monitoring questions from the monitoring worksheets, based on the respective monitoring strategies. Based on these questions, results and evaluations are presented, including recommendations. Note that monitoring items are sometimes reported in this document separately for each national forest, yet together according to the selected element. Recommendations are applicable to both national forests, unless otherwise noted.

Physical Resources

Monitoring Item – Air Quality

Goal(s), Monitoring Question(s):

The goal for the Rogue River National Forest is to reduce total suspended particulates (TSP) produced by prescribed fire to 56 percent of the base year production level. This goal is to be reached within ten years from the base year, which is 1991. Total TSP for 1991 was 39,708 tons (56 percent of the base year is 22,236 tons). The goal for the Siskiyou National Forest is 7,300 tons or less produced on an annual basis. The monitoring questions include:

- Is Best Available Technology (BAT) as defined by the Oregon State Implementation Plan (SIP), being utilized?
- Are management activities meeting the requirements of the Oregon SIP?
- Are tons of yearly TSP production on a downward trend toward the 2001 goal?
- Siskiyou NF: Does Total Suspended Particulate produced from planned ignitions exceed 7,300 tons Forest-wide annually?

Findings and Evaluation:

Rogue River National Forest

Results of monitoring show that BAT is being used. Review of project plans show a trend in the use of treatment methods other than prescribed fire. Management activities were in compliance with the Oregon State Implementation Plan (SIP).

For FY 2014 approximately 615 acres were burned with prescribed fire and approximately 6,316 tons of fuel consumed. This equates to 134 tons of TSP produced. The annual trend is clearly downward and far below the 2001 maximum production goal of 22,236 tons. With the planned increase in hazardous fuels reduction projects in the near future, TSP production may increase, but it should still remain well below the 22,236 ton goal (56 percent of the 1991 base year TSP). This portion of the Forest met all Smoke Management Guidelines and experienced no intrusions. Based on these findings, monitoring indicates that management direction is being achieved.

Siskiyou National Forest

For FY 2014 approximately 559 acres were burned with prescribed fire and approximately 4,739 tons of fuel consumed. This equates to 196 tons of TSP emitted from these burns. Even on an annual basis this is far below the threshold of 7,300 tons. With the planned increase in hazardous fuels reduction projects in the near future, TSP amounts may increase, but should still stay well below the 7,300 ton threshold of concern. This portion of the Forest met all Smoke Management Guidelines and experienced no intrusions. Based on these findings, monitoring indicates that management direction is being achieved.

Recommendations:

Based on these findings, monitoring indicates that management direction for air quality is being achieved on the Forest.

Monitoring Item – Soil Productivity

Goal(s), Monitoring Question(s):

The goal for the Rogue River National Forest is to maintain and/or enhance the physical, chemical, and biological properties of Forest soils at a level capable of sustaining the long-term demands of a wide variety of Forest users and healthy ecosystems. The goal for the Siskiyou National Forest is to maintain and/or enhance long-term productivity of the forest, primarily by mitigating the impacts of management activities and rehabilitating soils that have been impacted by management and natural events. Retention of coarse woody debris (CWD) helps maintain long-term site productivity. This is accomplished by requiring the use of standards and guidelines and other mitigation measures designed to protect soil productivity on all projects. Forest Service Manual 2520.2 and R-6 Supplement 2500-90-1 provide guidance.

Specific objectives include (1) Plan and conduct land management activities to minimize reductions of soil productivity potential caused by detrimental compaction, displacement, puddling, and severe burning. Maintain nutrient capital on forest and rangelands at acceptable levels. (2) Plan and conduct land management activities so soil loss from accelerated surface erosion and mass wasting, caused by these activities, will not result in an unacceptable reduction in soil productivity or water quality. The monitoring questions include:

- What effects are management activities having on soil properties, especially potential long term cumulative effects?
- Are the soil Standards and Guidelines being employed at the project level? Are they effective?
- Are coarse woody debris guidelines being used in project design? Are these guidelines effective?

Findings and Evaluation:

Consistency reviews of timber sale layout and/or contract review was completed on four sales (BLT timber sale on Gold Beach RD, Gunsight timber sale on Powers RD, and Ridge and Big Sky timber sales on High Cascades RD) to assure that the projects are meeting soil and water resource protection objectives, as specified in the project planning documents. All needed changes were reported and carried out to meet the protection objectives.

Best Management Practices monitoring was conducted on active road decommissioning of FS road 5201350 in the Upper Elk River sub-watershed on the Powers Ranger District. Components

of the National BMP Protocol related to soil productivity include evidence of soil erosion or sedimentation from decommissioning activities, as well as a review of planning and implementation documents to determine if required design features to restore and protect soil productivity were carried forward to implementation. No evidence of erosion or sedimentation was found on the decommissioned road bed, as slash treatments and erosion control was effectively installed. Some evidence of small areas of sheet erosion and bank slumping were found at a restored stream crossing, and corrective actions, such as better strategic placement of slash parallel to the slope were identified for this and future decommissioning projects to more effectively break up flow paths and catch sediment until vegetation is established.

Best Management Practices monitoring was conducted on a motorized OHV trail (West Trail #2) in the Muir Creek sub-watershed on the High Cascades Ranger District. Components of the National BMP Protocol related to soil productivity include evidence of soil erosion or sedimentation originating from the trail segment monitored. One location showed evidence of minor trail erosion/sedimentation coming off a short steeper pitch in the trail and being deposited immediately off the trail, but otherwise the trail is being well maintained, and the wet season closure on the trail system has been very effective at preventing erosion and sedimentation issues and protecting soil productivity adjacent to the trail system.

Four timber sale areas were reviewed during or shortly after harvest operations to assess implementation and effectiveness of contract provisions specific to protection or mitigation of soil productivity. This included the Elder timber sale on Wild Rivers Ranger District, Pan and North Huck timber sales on High Cascades Ranger District, and Moore-Johnson timber sale on Powers Ranger District. Pan timber sale included a field visit with the operator and Timber Sale Administer to review soil moisture in the units and how best to estimate moisture, discuss limitations of the soil types present, and reiterate soil protection measures. Subsoiling and slash placement mitigations in North Huck and Elder timber sales were meeting erosion and soil de-compaction objectives on temporary roads, main skid trails and landings. Moore-Johnson timber sale required corrective actions on one unit related to two landing slash piles within a riparian reserve, pull back of new road fill and slash that was showing signs of slumping, and road drainage, and provided an opportunity for adaptive management and refinement of contract language for future timber sale contracts.

Recommendations:

Based on these findings, monitoring indicates that management direction for soil productivity is typically being achieved on the Forest with implementation of FY14 projects. Where issues were found, corrective actions were taken and lessons learned are being applied to subsequent projects (such as refinement of contract language). Continue to review project areas with project administrators and interdisciplinary team members regarding protection and maintenance of soil productivity. Collect soil disturbance data on differing sites across the forest to compare inherent capacities of unique soils, cumulative impacts to soil productivity, and to assure that implementation of standards and guidelines are providing adequate protection to long term soil productivity.

Biological Resources

Monitoring Item – Silvicultural Harvest Methods

Goal(s), Monitoring Question(s):

The Forest goal is that areas of vegetation management (silvicultural treatments) are in compliance with the management objectives and assumptions contained in the forest plans. A goal of ecosystem management and the Northwest Forest Plan is to reduce the amount of clear-cutting. The monitoring questions include:

- Are the harvest methods being implemented as portrayed in the forest plans? What are the silvicultural methods being used? How much clear-cutting is occurring?
- Do silvicultural prescriptions and processes follow the Forest Plans' standards and guidelines?

Findings and Evaluation:

With the implementation of the Northwest Forest Plan in 1994, the amount and type of timber sales have changed dramatically compared to previous decades. As a consequence, harvested acres on the Rogue River-Siskiyou National Forest have been greatly reduced from the Forest Plan projections.

Rogue River National Forest

The Rogue River Forest Plan estimated annual total harvest acreage at 8,120 acres and about 120 million board feet. Analysis under the Northwest Forest Plan resulted in a revision of this estimate to about 26 million board feet (MMBF) annually, on about 1,800 acres. The 26 MMBF figure is described as the probable sale quantity (PSQ) and is scheduled form lands allocated as Matrix and Adaptive Management Area.

The harvest acreage for the Rogue River side of the Rogue River-Siskiyou National Forest was 179 acres in FY 2014. Please see the monitoring item on "Contribution to Forest Products Industries" for more detailed information on timber volumes offered. Prescriptions for vegetation management projects were reviewed and found to comply with Forest Plan requirements. In FY 2014, silvicultural systems included:

Table 1. Silvicultural harvest methods on the Rogue River side of the Rogue River-Siskiyou National Forest

Silvicultural harvest method	2014 treatment acres
Commercial thinning	179 acres
Overstory removal	0 acres
Selection harvest	0 acres
Salvage cut	0 acres
Reforestation	14 acres
Timber stand improvements	889 acres

Source: Forest Service Activity Tracking System (FACTS)

Siskiyou National Forest

The Siskiyou Forest Plan estimated annual total harvest at about 158.4 million board feet. Analysis under the Northwest Forest Plan resulted in a revision of this estimate to about 24 MMBF annually.

The harvest acreage for the Siskiyou side of the Rogue River-Siskiyou National Forest was 241 acres in FY 2014. Please see the Monitoring Item on "Contribution to Forest Products Industries" for more detailed information on timber volumes offered. Prescriptions for vegetation management projects were reviewed and found to comply with Forest Plan requirements. In FY 2014, silvicultural systems included:

Table 2. Silvicultural harvest methods on the Siskiyou side of the Rogue River-Siskiyou National Forest

Silvicultural harvest method	2014 treatment acres
Commercial thinning	241 acres
Overstory removal	0 acres
Selection harvest	0 acres
Salvage cut	0 acres
Reforestation	1,007 acres
Timber stand improvements	122 acres

Source: Forest Service Activity Tracking System (FACTS)

Recommendations:

Based on these findings, monitoring indicates that management direction for silvicultural harvest methods is not being achieved on the Forest. Reduced funding and staff in the timber program has led to outputs below expected levels. In addition, restrictions caused by wildlife protections have prevented the use of some silviculture harvest methods further reducing the ability of the Forest from meeting annual timber outputs. This trend is likely to continue as additional stressors on the biological components are expected to increase in the foreseeable future.

Monitoring Item – Insect and Disease Activity

Goal(s), Monitoring Question(s):

The Forest goal is to protect resources and values from unacceptable losses due to destructive pests. Monitor levels and activity of Forest pests to identify or predict when and where they will hinder the attainment of management objectives. The monitoring questions include:

- What are the current levels and activities of key Forest pests and their trends? Are destructive insect and disease organisms threatening management objectives?
- Are management activities affecting insect and disease levels and what is the foreseeable trend?

Findings and Evaluation:

Tree Mortality from Annual Aerial Detection Surveys

In the annual Pacific Northwest Aerial Detection Survey, trained observers fly with a pilot in a small fixed-wing airplane from July through September. The observers are familiar with forest vegetation types, tree species, and insects and diseases. They are trained to recognize mortality

and damage caused by various insects and diseases from the air. The observers locate areas of tree mortality and sketch those locations onto maps as coded points or polygons. All pockets of current-year tree mortality are attributed with causal agent (usually insect-caused) and either an estimate of the total number of recently-killed trees or an estimated number of recently-killed trees per acre. Mortality in the midstory or understory that is obscured by dominant or codominant trees is not usually recorded.

Table 3. Bark beetle and woodborer related tree mortality detected in Annual Aerial Detection Surveys on the Rogue-River-Siskiyou National Forest, 2010 to 2014

Year	Number of trees killed	Acres affected
2010	12,528	15,454
2011	9,622	11,206
2012	5,301	7,315
2013	10,504	4,191
2014	12,879	5,622

Insect-related mortality mapped on the Rogue River-Siskiyou National Forest from 2010-2014 was attributed to the following agents: Douglas-fir beetle in Douglas-fir, flatheaded fir borer in Douglas-fir, fir engraver in true firs, mountain pine beetle in lodgepole pine, sugar pine, western white pine and whitebark pine, and western pine beetle, and pine engraver in ponderosa pine. In 2014, 66 percent of the mapped mortality (8,563 trees killed) was due to mountain pine beetle in lodgepole pine on the High Cascades RD. This represents a slight increase in mortality from 2013 when 7,500 dead lodgepole pines attributed to mountain pine beetle were mapped. Mortality caused by flatheaded fir borer in Douglas-fir increased in 2014, accounting for 14 percent of insect-related mortality. Fir engraver-caused mortality in true firs and western pine beetle-caused mortality in ponderosa pine accounted for 13 percent and four percent of the trees killed, respectively.

Aerial Detection Survey maps are available in PDF format from 2003 to the present at http://www.fs.usda.gov/detail/r6/forest-grasslandhealth/insects-diseases/?cid=stelprdb5294941. Aerial Detection Survey data from 1948 to the present are available for download from this website in GIS format.

Bark Beetles and Woodborers Monitoring and Treatment

Surveys were conducted by Forest Health Protection staff in the Ashland Research Natural Area on the Siskiyou Mountains Ranger District to evaluate bark beetle and woodborer risk. Data obtained from these surveys supported efforts to procure USFS Forest Health Protection Prevention/Suppression/Restoration funding for thinning treatments in FY15. Average tree densities were at the top of or well above recommended and project target density for ponderosa pine relative to bark beetle risk. Pine health monitoring continues in a portion of the Butcherknife-Slate Timber Sale on the Wild Rivers Ranger District and in the Prospect Corridor on the High Cascades Ranger District.

Thinning prescriptions to reduce the risk of bark beetle and flatheaded fir borer mortality are being incorporated into timber sale and fuel reduction prescriptions across the forest.

Other Mortality Agents

A non-native pathogen, *Cronartium ribicola*, the cause of white pine blister rust, causes substantial mortality of regenerating western white pine and sugar pine on moist high hazard sites. It also causes substantial topkill and branch dieback on larger trees, weakening them and increasing their susceptibility to bark beetle attack. White pine blister rust is also present in whitebark pine stands on the forest where it has the potential to severely reduce that species' success. Whitebark pine was recently designated a Sensitive Species. Activities to reduce impacts of white pine blister rust include planting rust-resistant western white pine and sugar pine as a part of reforestation efforts and pruning young trees. In cooperation with the Dorena Genetics Resource Center, cone collections to assess rust-resistance in whitebark pine are underway on the forest.

Native root diseases and dwarf mistletoes cause substantial growth loss and mortality on the Rogue River-Siskiyou National Forest. Prescriptions to reduce the impacts of these diseases are incorporated into timber sale and fuel reduction prescriptions across the forest where appropriate.

Port-Orford-Cedar Root Disease Monitoring and Treatment

Port-Orford-cedar is an ecologically and economically important tree species. Its natural range is geographically limited to southwestern Oregon and northwestern California. Port-Orford-cedar is affected by a non-native root pathogen, *Phytophthora lateralis*. The pathogen causes Port-Orford-cedar root disease and is nearly always fatal to the tree it infects.

In 2012, a multiyear inventory project mapping Port-Orford-cedar and Port-Orford-cedar root disease was completed on all USFS land within the range of Port-Orford-cedar in Oregon and California. Live Port-Orford-cedar canopy closure and the number of live and dead Port-Orford-cedar by size class were estimated from aerial photography and then ground-truthed. Based on these inventory data, 93,216 acres with Port-Orford-cedar are estimated to occur on the Rogue River-Siskiyou National Forest; 6.7 percent are infested by *P. lateralis*.

Current-year mortality of Port-Orford-cedar attributed to *P. lateralis* is mapped during annual Aerial Detection Surveys. In 2014, 169 recently-killed Port-Orford-cedars on 175 acres were detected. All mapped mortality occurred in locations of known root disease.

Sudden Oak Death Monitoring and Treatment Projects

Phytophthora ramorum, the cause of sudden oak death, is an aggressive non-native pathogen that threatens the ecological integrity of tanoak forests in coastal southwestern Oregon and the economic health of Oregon's nursery and timber industries. It was first detected in Oregon in 2001 and on the Rogue River-Siskiyou National Forest in 2006. *Phytophthora ramorum* is an Oomycete, a water mold that affects above-ground plant parts of numerous trees, shrubs and forbs. The pathogen is well adapted to the mild, wet conditions of the Pacific Northwest. It forms sporangia (sacs of spores) on infected leaves or twigs which spread in wind and rain and can release swimming zoospores that germinate and infect the plant when conditions are moist. *Phytophthora ramorum* also makes thick-walled resting spores (chlamydospores) in infected plant parts, which allow it to survive heat and drought and to persist for months in soil and plant debris.

In cooperation with Oregon Department of Forestry, Oregon Department of Agriculture, and USDI Bureau of Land Management, Coos Bay District, the Rogue River Siskiyou has been participating in the Oregon sudden oak death program since 2001. The program goal is to slow spread by: 1) early detection and rapid eradication of new infestations that are epidemiologically

important; 2) reducing inoculum levels wherever practical through cost-share projects and best management practices, and; 3) improved education and outreach to prevent spread by humans.

Phytophthora ramorum is subject to both state (ORS 603-052-1230) and federal (7 CFR 301.92) quarantine regulations. State and Private Forestry, Forest Health Protection, has been cooperating with the State of Oregon since 2001 to eradicate and contain the pathogen when it is found. 264 square miles of coastal Curry County are currently regulated (ORS 603-052-1230 and 7CFR 301.92). This area includes approximately 50,000 acres of the Rogue River-Siskiyou National Forest.

Newly detected disease centers outside of a Generally Infested Area are treated as quickly as possible using a combination of injected herbicide of tanoaks, cutting, piling, and burning known infected hosts, and cutting, piling, and burning adjacent tanoaks and some shrub species believed exposed to inoculum. On all ownerships affected, about 6,000 acres have been treated. Approximately 98 acres of treatment were done on the Rogue River-Siskiyou National Forest prior to 2014.

Treatments at sudden oak death infestations discovered in FY13 in the Wheeler Creek drainage of the Winchuck River Watershed and at Nook Bar on the Chetco River were completed in FY14. Eighty-nine acres were treated. Known infected trees were cut and burned. All tanoaks surrounding the known infected trees were injected with herbicide to prevent sprouting. All tanoaks immediately surrounding the known infected trees were cut, piled and burned. Pacific rhododendron, and evergreen huckleberry within 50 feet of the known infected trees were also cut, piled, and burned. The Chimney Camp Trail #1279 remained closed to the public to prevent the spread of the pathogen via soil movement.

Monitoring data indicate that while *P. ramorum* is extremely difficult to eradicate; it is possible to eradicate the pathogen from some sites. Several factors including timeliness, thoroughness, and type of treatment are critical to success. Data also indicate that the Oregon effort is slowing the spread of the pathogen relative to areas that have not been treated. Special projects in FY13 included continued evaluation of pathogen survival and vegetation response to eradication treatments post-treatment and monitoring soil along Redwood Nature Trail #1111. Efforts to keep the public informed about Sudden Oak Death include participating with cooperators in public meetings in Brookings and Gold Beach, stakeholder meetings in Salem, and the production of educational materials for a wide array of audiences including a revised “Stop the Spread” publication aimed at special forest products permitees and the general public. (http://www.oregon.gov/odf/privateforests/docs/ec1608%20revived%20April%202013.pdf)

Recommendations:

The POC ROD plan amendment includes: a) Standards and Guidelines for General Direction applicable everywhere and Management Practices optional for projects, b) a Risk Key, and c) Identification of 7th field watersheds, which require implementation of Management Practices if the management activity introduces appreciable additional risk to the POC in that watershed.

Continue to monitor and aggressively treat *P. ramorum* if detected on National Forest System lands. Continue to plant/interplant with rust resistant five-needle pines to maintain these minor species on the landscape and provide species diversity for the Forest. Continue to improve integration between forest health and fuels treatments to maintain forest health, reduce the fuels

hazards where possible, and to improve the resiliency to insect and disease outbreaks and wildfire effects across the Forest.

Monitoring Item – Anadromous and Resident Fish Habitat

Goal(s), Monitoring Question(s):

The Forest goal is to provide and maintain habitats with diversity and quality, capable of recovering populations of resident and anadromous salmonid fish species to their potential. Monitoring questions are:

- Are the quantity and quality of rearing pools and coarse woody material being generated in the stream channel adequate for fish habitat to address objectives of potential?
- Are Forest Plan goals, objectives, and desired conditions for anadromous and resident salmonid fish being achieved? Are management activities consistent with ACS objectives?
- How effective are fish habitat improvement projects on stream channel configurations?

Findings and Evaluation:

Introduction

The FY 2014 report highlights the accomplishments in aquatic restoration for the top five priority watersheds on the Forest: East Fork Illinois River, Grayback Creek, and Sucker Creek (Wild Rivers Ranger District), Elk River (Powers Ranger District), and Elk Creek (High Cascades Ranger District). Project work was implemented in Grayback Creek, Sucker Creek and Elk Creek watersheds. The long-term goal for restoration of the high priority watersheds includes riparian forest and aquatic systems resilient to disease, insects, fire, and flood events.

This report outlines the implementation of projects which set the aquatic and riparian systems in the top priority watersheds on a trajectory toward recovery. The selection of priority aquatic/riparian watersheds was based on the relative importance of these watersheds for anadromous fish, water quality, the current health and resilience of these watersheds, and the predicted responsiveness of the watershed to restoration treatments. This approach focuses time, funding, projects, and partnerships more efficiently and effectively.

High priority treatments include, but are not limited to, streambank and channel stabilization, surface-flow restoration, improvement or decommissioning of roads, removal of fish barriers, placement of instream large wood, thinning and planting in young-age riparian stands, removal of non-native plant species within riparian areas, underburning in outer riparian areas, and mining violation enforcement. These projects will be the focal point for aquatic restoration on the Forest over the next few years.

China Flat Instream Restoration Project

The purpose of this project is to improve degraded instream habitat within the South Fork Coquille River (SFCR), a priority Watershed. The project area lacks instream complexity which reduces bank stability, cover, sinuosity, pools & gravel recruitment necessary for recovery of ESA-listed coho salmon. The Coquille River Sub-basin Plan (2007), states that the “depletion of slow-water refugia is the key limiting factor for coho salmon recovery,” and this project is designed to address limiting factors at a watershed scale and improve watershed functionality through a multifaceted approach and will benefit multiple life stages of Oregon Coast ESU coho, spring and fall Chinook, Oregon Coast DPS steelhead, resident cutthroat trout and Pacific Lamprey.

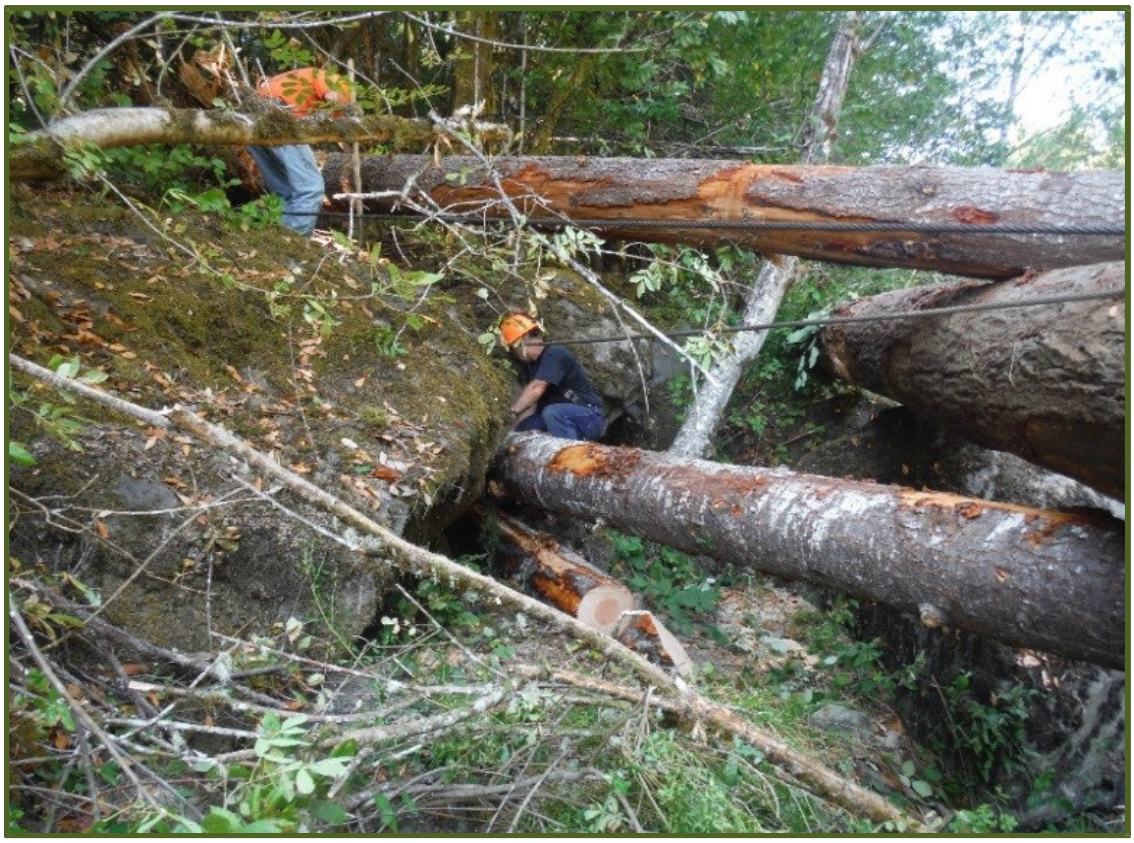


Figure 1. Log placement in bolder crevice pinch point

The best approach for habitat restoration is to mimic natural events and processes similar to a windstorm or landslide to guide the structure design. This approach is most effective when the site has all the components for good habitat except for key pieces of wood or boulders to develop complex habitat or limited spawning gravel retention. The Coquille Watershed Association (CWA) and partners will build 5 logjams along the SFCR-China Flat reach to restore habitat complexity, and the project also includes the removal of 3 large hazard trees that pose a threat to the public which will be used in the logjams, and an educational component working with local forestry and biology high school students on habitat and riparian planting projects. Processes and changes that were observed in 2013 are summarized below:

Short-term goal 1: Restored habitat complexity resulting in increased wood loading, more abundant and complex pool habitat, greater floodplain connectivity, increased aquatic habitat productivity and spawning gravel recruitment and retention. Measurable objectives will be the installation of 5 structure placements using 15-25 logs over 0.35 miles which will immediately increase complexity, and the benchmarks for wood volume, pieces and "key" pieces will be met upon completion.

Short-term goal 2: Increasing the diversity and density of understory plantings that will eventually add to instream habitat complexity, cooler temperatures and provide shade and nutrients. This goal will be met through the CWA Restoration Crew and staff leading local students in tree planting field days showcasing native species, invasive weed identification and natural resource conservation education.

Since the primary goal of the project is to improve overall instream quality to restore salmonid spawning & rearing habitat within the SFCR, it is anticipated that all objectives will be met in the

long-term. Instream structures will benefit China Flat's aquatic residents and hopefully be self-perpetuating by continuing to collect woody debris moving through the SFCR. Riparian plantings, if properly maintained and released from competition in the first few years, will form the basis for future LWD wood recruitment in the riparian zone. Through managed riparian reserves and the increased amount of large wood instream the number, depth and complexity of pools will grow and continue recruiting spawning gravel. These factors will result in increased slow-water refugia and the long term objective is to support self-sustaining, healthy and resilient salmon and steelhead populations by allowing the watershed to restore itself over time after active management.

As of September 30, 2014, this project was 65% complete. During this period, the USFS and ODFW assisted the CWA with design and permitting, and landowner Plum Creek (PC) drafted special use permits. The CWA Director worked with the USFS and Plum Creek on contracts and donated logs/services, and the contractor was scheduled. The project started later than planned due to extreme fire conditions, so ODFW biologist Jeff Jackson secured an in-water work extension and the contractor secured a fire waiver. With the blessing of the agencies and landowner, instream activities started in late September. Site specific actions included the following:

Site 1: Is at the bottom (downstream) of the channel with large boulders. The design utilized 8 trees with rootwads wedged between existing boulders and on-the-bank pinch points. 5 trees with rootwads were winched into place and 3 trees with rootwads were pulled on top.

Site 2: Just upstream we used 6 trees and interlocked pieces with alders on the gravel bar and pinch points on the bank. 2 trees with rootwads were winched; 1 cut hazard tree was winched, and 3 pulled trees on top.

Site 3: Just upstream of site 2 we used 5 trees. The bank was higher here and we adapted the structure design to accommodate the incised/eroded bank. 3 trees with rootwads were winched into place with 2 trees and rootwads pulled on top.

Site 4: Just upstream of site 3. 1 tree with rootwads winched into pace with 2 trees and rootwads pulled on top.

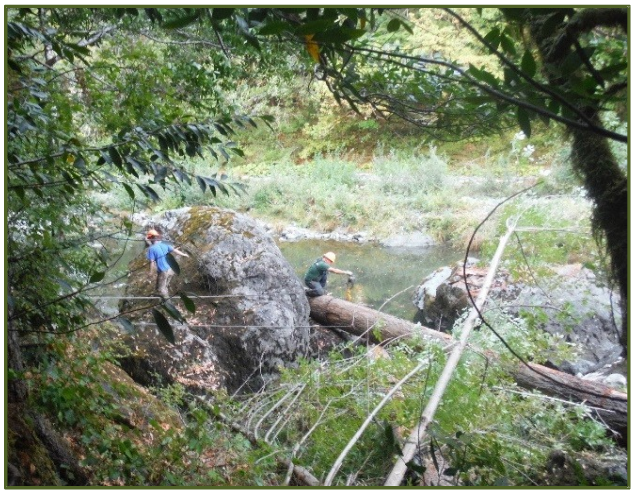
Site 5: Just upstream of site 4. 1 tree with rootwads winched into pace with 2 trees and rootwads pulled on top.

Site 6: Just upstream of site 5. 1 large hazard tree piece was placed.

Stream miles were increased from an expected .35 to .50 mile, with 28 logs in 6 sites. The riparian areas improved for this reporting period consisted mainly of blackberry removal.

Table 4. Ecological benefits from Physical improvements to China Flat site.

Benefits		Project Amount Accomplished		Amount to be Accomplished	
		This Reporting Period	To Date (Cumulative)	Short Term	Long Term
Acres improved, by habitat type	Instream	.50 acres	.50 acres	.50 acres	1.0 acres
	Lake				
	Wetland				
	Estuarine				
	Riparian	.25 acres	.25 acres	4.0 acres	5.0 acres
	Upland				
	Other				
Miles of stream or river		.50 miles	.50 miles	.50 miles	.70 miles



Figures 3 & 4. Placement and adjusting logs at site 1. View from across the South Fork Coquille River at site 1.

Best Management Practices Monitoring Project

In FY14, the Rogue River-Siskiyou National Forest (RRSNF) monitored Best Management Practices (BMPs) on seven Forest projects as part of the USFS National BMP Program (USDA 2012). Monitoring was conducted to evaluate the ***implementation*** and ***effectiveness*** of BMPs applied to RRSNF projects and activities. This report summarizes results of all BMP monitoring conducted on the Forest in FY14.

Monitoring described in this report was conducted using protocols developed under the USFS National BMP Program.

Five sites were randomly selected using the criteria provided in the National BMP Program. The other two sites were selected using other criteria. Projects were located in seven separate subwatersheds throughout the Forest.

RRSNF sites monitored in 2014 were from the following resource categories:

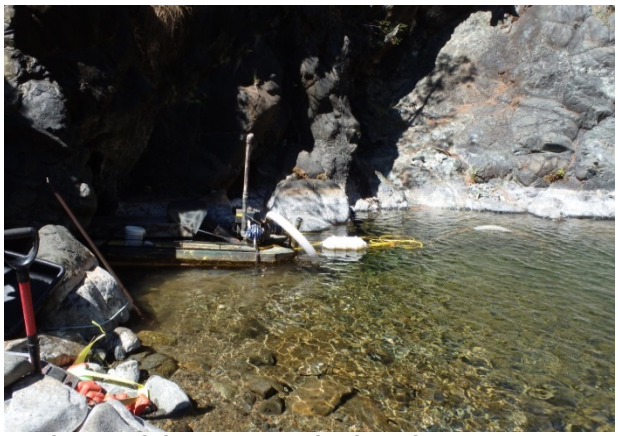
Wild Rivers Ranger District
- Completed Road Decom. *(effectiveness only)*
- Suction Dredging Operations *(implementation only)*

Powers Ranger District
- Active Road Decom.
- Chemical Use

Siskiyou Mountains Ranger District
- Grazing Management *(implementation only)*

High Cascades Ranger District
- Use of Prescribed Fire

Trail Operation



Figures 4 & 5. Road Decommissioning and Suction Dredging BMP Monitoring Sites.

Implementation of BMPs: Implementation ratings summarize the percentage of required BMPs from project NEPA documents that were actually implemented on the ground at the site monitored. These ratings were determined through the national rating rule sets.

Effectiveness of BMPs: Effectiveness ratings indicate to what level BMPs were effective at protecting water quality. In 2014, this rating was determined through national rating rule sets which address the practices intended to prevent or minimize erosion and/or release of pollutants, and delivery to waterbodies at the site monitored.

Table 5. Summary of implementation and effectiveness monitoring sites.

Monitoring Activity	Implementation Rating	Effectiveness Rating	Comments
Suction Dredge Operations	Fully	N/A	All BMPs from CE put into permit
Trail Operations	Fully	Fully	All BMPs were in the management plan and were well implemented and effective on the ground.
Chemical Uses	Mostly	Fully	A few BMPs from the EA or LRMP were not in the spray plan, however they were not critical for protecting water quality. Implementation was effective at protecting water quality.
Grazing Management	Mostly	N/A	No previous stream and riparian monitoring has been done, which lowered the implementation rating.
Active Road Decommissioning	Marginal	Marginal	Many of the BMPs included in the EA were not transferred to the contract. BMPs were implemented but were not entirely effective at keeping sediment out of the stream system.
Use of Prescribed Fires	No BMPS	Fully	The CE did not include any BMPs or reference to LRMP standards and guidelines. However, many BMPs were included in the burn plan, and were effective at protecting stream courses.
Completed Road Decommissioning	N/A	Fully	BMPs in the contract were followed and were effective at reducing sediment movement after decommissioning.

Corrective Action Recommendations:

Decommissioned Roads

- Placement of slash along decommissioned stream crossings should be both parallel and perpendicular to the stream crossing to break up the flow path.
- Ensure flowing streams are brought down to natural streambed elevation when removing culverts.

Grazing Management

- Follow through with monitoring outlined in EA and DN.

Trail Operation

- Ensure drainage (French drain) is installed properly. Install new drainage features to reduce runoff from trail.

Adaptive Management Recommendations:

Decommissioned Roads:

- Include sub-soiling/ripping in road decommissioning to improve the ability of trees to grow on the roadbed.
- Have a meeting with specialists to go over contracts to make sure everything in the EA gets into the contract correctly.

Prescribed Fire:

- Use the correct NEPA document when creating the burn plan. Include the LRMP standards and guidelines in the NEPA.

Copper Salmon Road Decommissioning

The Copper Salmon Legacy Roads project is located in Curry and Coos Counties in Oregon, approximately 12 miles east of Port Orford and 12 miles southwest of Powers, in Townships 32 and 33 South, Ranges 12 and 13 West, Willamette Meridian. The project encompasses the entire 13,700 acre Copper Salmon Wilderness, adjacent closed roads, and Blackberry Creek from its mouth to the NFS 5325 road. The project area is managed entirely by the Forest Service.

The Project falls within the following watersheds: North Fork Elk River, South Fork Elk River, Elk River main stem, Johnson Creek, Butler Creek, and Salmon Creek (of the South Fork Coquille River).

The Elk River 5th Field Watershed was identified as a Tier 1 Key watershed in the Northwest Forest Plan (USDA-FS, USDI-BLM, 1994) and is one of the top four aquatic priority watersheds on the Forest. The area contains important fish-bearing streams providing habitat for five anadromous fish species, including coho salmon, listed as threatened under the Endangered Species Act (ESA).

Road sediment has been described as the primary aquatic habitat degradation factor within the Upper Elk River watershed. This sediment could affect several miles of critical aquatic habitat. The sediment can reduce macro invertebrate production and fill pools, reducing habitat quantity, salmonid food availability and change the composition of spawning gravels located downstream of the failed sites.

In FY14, 5.8 miles of road was decommissioned in the Copper Salmon Wilderness eliminating 5,500 cubic yard of potential sediment delivery from road failures to critical fish habitat. Soil productivity was restored on approximately 19 acres of road bed. This action has re-established hillslope cross-drainage, the ability of the soils to infiltrate surface water flows, re-establish subsurface flows over time and allow for the establishment of vigorous forest vegetation, all of which would decrease the potential for erosion and sediment over the long term. Below in table 6 is a summary of the routes proposed for decommissioning.

Table 6. Summary of proposed routes for decommissioning in the Copper Salmon project area.

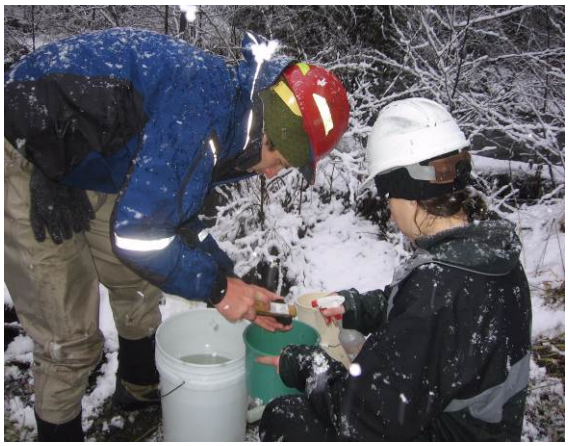
Drainage Name	Road Number	Length (Miles)	Number of Stream Crossings	Number of Cross Drains
Replace Blackberry Creek culvert with a bridge	**5325000**		**1**	**0**
North Fork Elk River	3353320	1.28	2	20
North Fork Elk River	3353330	2.18	0	0
Total N. Fork Elk		**3.46**	**2**	**20**
South Fork Elk River	5325-MP18Spur	1.63	1	0
Total S. Fork Elk		**1.63**	**1**	**0**
Elk River Mainstem	5201350	2.03	1	26
Total Elk R. Mainstem		**2.03**	**1**	**26**
Johnson Creek	3353160	2.22	1	5
Total Johnson Cr.		**2.22**	**1**	**5**
Roads that will only have 1st 300 ft. recontoured	3353323, 3353350, 3353351, 3353370, 5325281, 3353150, 3353156, 5201380, 3353140	**0.5**	**0**	**0**
Totals		**9.84**	**6**	**51**

In FY15, the remaining routes proposed for decommissioning will be completed. When fully implemented, this project will decommission approximately nine (9) miles of road at high-risk of delivering sediment to the Elk River while minimizing soil disturbance and the removal of existing vegetation. This project will also allow replacement of the Blackberry Creek culvert with a bridge and the movement of stockpiled aggregate to an area outside of the wilderness boundary. It is expected that the following desired trends identified in the 1998 Elk River Watershed Analysis will be improved: "the reduction of sediment delivery in areas where rates are above natural levels through diversion prevention, fill pullback, and road decommissioning; the restoration of natural stream-flow patterns; the reduction of chronic sediment sources to allow the aggraded channels to incise and create a narrower channel with deeper pools; and the maintenance of water clarity." (Elk River Watershed Analysis, pages 117 to 118 (1998))

Multi-District Stream Nutrient Enhancement Project – salmon out-planting

Multiple partnerships with Gold Beach and Central Point ODFW offices, Upper Rogue Watershed Council, Coastal Conservation Association, Stream Restoration Alliance of the Middle Rogue, Middle Rogue Steelheaders and Oregon State University. These annual projects occurred along three miles of anadromous fish bearing stream; 800 hatchery coho salmon were planted in Elk Creek tributaries (Sugarpine and Bitterlick Creeks) High Cascades RD; and 100 brood stock Chinook salmon carcasses (from the Chetco River) were planted in Quail Prairie Creek; Gold Beach RD.

Carcass placement with partners – an educational and hands-on experience!



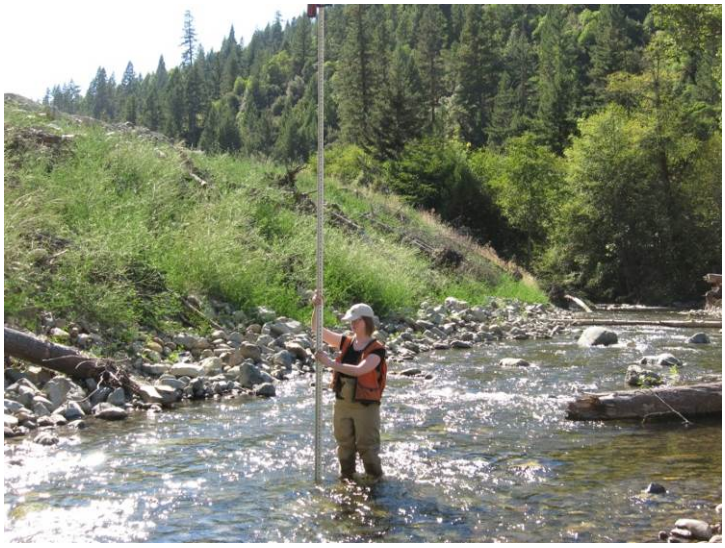
Humboldt State and Southern Oregon University students braved the elements during monitoring to test the chemical and biological response of carcasses

Forest-Wide Monitoring for Project Development and Implementation:

- Monitoring of timber sales associated road impacts from haul and ensuring project design and BMPs were implemented, Gold Beach RD and Powers RD.
- QA/QC, monitoring layout of landslide hazard zones and Riparian Reserves for the Ashland Forest Resiliency Project, review of tree marking in potentially sensitive areas, Siskiyou Mountains RD.
- Sucker Creek Mainstem Channel Restoration Project: pre/post project monitoring (Rosgen Level III, photo points, water temperature, and fish habitat surveys), Wild Rivers RD.
- Rock Creek Channel and Fish Habitat & Riparian Restoration (2008-2010): post project photo monitoring, post-project pebble counts and post-project snorkeling survey, Powers RD.
- Johnson Creek Channel Restoration (2011), Powers RD: pre-project photo monitoring.
- Hawk Creek, Sugar Pine and Bitter Lick Creek Fish Habitat Restoration (2012-2015), High Cascades RD: post-project photo monitoring.
- Hunter Creek Restoration Project (2014), Gold Beach RD: post-project photo monitoring.
- Coho and steelhead spawning, and presence/absence surveys were completed for escapement estimates on Wheeler Creek (Winchuck River 5th), Gold Beach RD; South Fork Little Butte Creek, Bitter Lick and Sugarpine Creeks (Elk Creek 5th), High Cascades RD; Sucker and Grayback Creeks (Sucker Creek 5th), Wild Rivers RD; and Beaver and Palmer

Creeks (Upper Applegate 5th), Siskiyou Mtns. RD. Surveys were coordinated with Central Point and Gold Beach ODFW biologists.

- R6 Level II stream surveys (45 miles): Powers RD: Blackberry Ck; Gold Beach RD: Mislatnah Creek, Wild Rivers RD: Shan Ck, SF Galice Ck, Page Ck; High Cascades RD: SF Little Butte Ck. Fish presence & absence surveys were also conducted at various locations throughout the forest as part of the stream survey process. It will be used to increase accuracy of the Forest GIS fish distribution layer.



POST-PROJECT: Sucker Creek Mainstem Channel Monitoring with our partner, Nancy Smebak, Illinois Valley Watershed Council, in channel constructed in FY10 on private land.

Future Restoration Efforts

In FY 2014, work continued on the Watershed Restoration Action Plans (WRAPs) jointly completed with our multi-partnerships in the RRSNF five priority watersheds under the National Watershed Condition Framework (WCF). In particular, East Fork Illinois River watershed was completed and a restoration project is expected to be implemented along the Upper East Fork Illinois and Dunn Creek subwatersheds beginning in FY-16. The Forest also continued to actively engage with our local watershed councils. Of particular note, the Forest worked closely with the new Rogue River Watershed Council and other partners to promote aquatic restoration projects within the Elk Creek watershed and Bear Creek watershed.

Recommendations:

Based on these findings, monitoring indicates that management direction is being achieved on the Forest.

Monitoring Item – Threatened, Endangered, and Sensitive Species: Spotted Owl

Goal(s), Monitoring Question(s):

The Forest goal is to maintain a well distributed, genetically viable population of northern spotted owls across the Forest, while retaining clusters of connectivity of nest sites and dispersal habitat across the landscape. This goal includes following the Standards and Guidelines contained in the Northwest Forest Plan, and compliance with the Endangered Species Act. The monitoring questions include:

- Are the quantity and quality of spotted owl habitats being retained in accordance with the standards and guidelines?
- Are the Forest Plans' goals, objectives, and desired conditions for spotted owl habitat being achieved?
- What is the population status, nest occupancy, breeding status, reproductive status and trend for the foreseeable future?

Findings and Evaluation:

High Cascades Ranger District

The High Cascades Ranger District is located in a spotted owl demography study area which is monitored on an annual basis by OSU Experiment Station in conjunction with District biologists. This has been an ongoing effort since 1990. All surveys were conducted to protocol, and were located in both the Matrix and Late-Successional Reserve (LSR) land allocations.

Spotted owls were detected at 53 of the 171 sites we visited in 2014. Among the sites that were surveyed to protocol, pairs were detected at 36 sites, single owls were detected at 5 sites, and owls of unknown social status were detected at 12 sites. The percentage of sites where spotted owls were detected on the study area (31%) represented a 4.0% decrease from 2013 with the percent of pairs located (21%) equaling 2013. There were 90 sites with continuous survey effort between 1992 and 2014, and banded spotted owls were detected at 24% of these sites in 2014. Among the sites that were surveyed to protocol, pairs were detected at 36 sites, single owls were detected at 4 sites, and owls of unknown social status were detected at 20 sites.

Twenty-six owl pairs were surveyed to protocol to determine nesting status and 22 of these pairs exhibited nesting behavior (85%) which was among the highest nesting rates recorded for this study.

In 2014, productivity increased relative to 2013 and was greater than in most years. Warmer temperatures in the early nesting season are associated with increased productivity while increased precipitation during winter is associated with lower productivity in the southern Oregon Cascades (Dugger et al. 2005, Forsman et al. 2011). Productivity in 2014 was better than average and early nesting season temperatures were higher than the average while precipitation during the winter was at, or near, record lows, so the mild weather might have been a factor in the high nest success that we documented. During the course of the study productivity has periodically followed a strong biannual pattern of alternating high and low years, disrupted by low productivity in both 2005-2006 and higher reproduction in both 2009-2010. The annual total number of young produced on the study area generally declined or increased slightly in the previous six years so 2014 represented a large departure from the recent pattern.

The total number of spotted owls detected and the number of previously banded owls identified in 2014 were the lowest recorded for the study. Spotted owl detections at historic territories were unchanged from 2013-2014 at LSR sites, whereas, the double digit decrease in spotted owl

detections in the Matrix LUA well exceeded the slight decrease in detections recorded for the Wilderness sites. Overall this has been the long-term trend across the study area as detections of spotted owls have gradually declined.

Overall, the mean percentage of sites with owls detected has remained similar for the Wilderness and LSR, although a gradual decline is evident on both areas. In 2014, the decline in sites where spotted owls were detected in the Matrix was greater than for most years. The mean percentage of sites with pairs is similar for the three land management categories and increased for Wilderness sites in 2014 compared to 2013. (Dugger et al. 2014)

Siskiyou Mountains Ranger District

While the Siskiyou Mountains Ranger District is not located within a demographic study area, there are recent surveys for some of the historic locations, primarily associated with the Ashland Forest Resiliency Project. Spotted owls occupied approximately 40 percent of the sites visited.

Gold Beach, Powers, and Wild Rivers Ranger Districts

No significant owl surveys have been conducted on the Siskiyou Portion of the Forest. In 1989, there were 40 sites where northern spotted owls had been detected. In 2014, there were 179 spotted owl activity centers established where resident single or pair status was determined on the Siskiyou National Forest over the last 20 years since the Siskiyou Forest Plan.

NSO surveys were conducted as part of the Briggs Valley project in the Upper Briggs Creek 6th field watershed. Of the five (5) historic nest sites in this watershed, 33 were included in the survey effort. Responses were heard in two of the three historic nest location s and 2 new territories were identified, one occupied by a pair and one by a territorial male. Individual barred owls were also detected in 2 separate locations of the project planning area.

The Gold Beach Ranger District conducted year three of spotted owl surveys associated with the Lower Rogue Vegetation Strategy in 2014. A total of 107 points were called in May 2014, covering a total of 16,888 acres of Nesting Roosting and Foraging habitat, 7,628 acres of dispersal habitat, and 7,105 acres of capable habitat. The acres covered seven known spotted owl sites, as well as one projected site. Only one response was detected at a known site.

Summary and Conclusions

Since the Forest Plans were published in 1989 and 1990, surveys have located many more sites on the Rogue River side of the Rogue River-Siskiyou National Forest. From 1990 to 1994, known locations roughly doubled from approximately 100 sites to almost 200 known pair or resident single locations across the Forest. This was far above the number of owl sites that were thought to be needed for viability at the time the 1990 Rogue River Forest Plan was published. In addition, the Northwest Forest Plan allocated many more lands and habitat across the Forest for spotted owl management.

Since 1990 habitat has increased and timber harvest within suitable habitat has decreased markedly from what was projected. There are approximately 540 historic and current northern spotted owl sites on the Forest (209 sites on the High Cascades Ranger District, 82 sites on the Siskiyou Mountains Ranger District, and 245 sites on the Wild Rivers, Gold Beach, and Powers Ranger Districts) as well as approximately 360,000 acres of suitable habitat. However, across the Forest spotted owl detections at known sites have declined by approximately 50 percent since 1994. Given the numbers of historic and known sites and the amount of extant habitat on the

Forest, it is likely that the numbers of spotted owls on the Rogue River side of the Forest still constitute a viable population at this time.

Recommendations:

Based on these findings, monitoring indicates that management direction for the spotted owl is being achieved on the Forest.

Monitoring Item – Threatened, Endangered, and Sensitive Species: Bald Eagle and Peregrine Falcon

Goal(s), Monitoring Question(s):

The Forest goal is to maintain genetically viable populations of bald eagles and peregrine falcons, for the subpopulation on the Rogue River-Siskiyou National Forest. This objective will be met by following the standards and guidelines contained in the Northwest Forest Plan, and in compliance with the Endangered Species Act. The monitoring questions include:

- Are the quantity and quality of bald eagle and peregrine falcon nest sites and habitats being retained in accordance with the standards and guidelines?
- Are the Forest Plans' goals, objectives and desired conditions for bald eagle and peregrine falcon habitat being achieved?
- What is the population status, nest occupancy, breeding status, reproductive status, and trend for the foreseeable future?

Findings and Evaluation:

Several raptor species on the Forest are monitored for occupancy and breeding success on an annual basis. These species include the bald eagle and peregrine falcon. On the High Cascades Ranger District, annual raptor surveys include monitoring for up to 8 historic and current peregrine falcon sites and 2 bald eagle sites; 1 bald eagle and 1 peregrine falcon site on the Siskiyou Mountains Ranger District; 1 peregrine falcon site on the Powers Ranger District; and 5 bald eagle and 3 peregrine falcon sites on the Gold Beach Ranger District.

Bald eagle

Bald eagles specifically use mature conifer or old growth habitat, preferably along large rivers and major tributaries. The estimated amount of currently suitable bald eagle habitat within the bald eagle habitat base on the Siskiyou side of the Rogue River-Siskiyou National Forest, where the bald eagle is a management indicator species (MIS) is 107,894 acres. This figure has not been changed measurably in recent years, but is projected to increase over the next 5 decades within Late-Successional Reserves.

There are currently five territories (Brushy Bar, Copper Canyon, Libby, Quosatana, and Watson) on the Gold Beach Ranger District along the Rogue River, which are monitored annually. Productivity at four of the nest sites (Copper Canyon, Libby, Quosatana, and Watson) averages 1.03 young per year, which equals the 5-year average for all of Oregon. In 2014, the nest sites resulted in the successful fledging of 5 eaglets. The Brushy Bar territory was not occupied by a nesting pair. Of the two historic eagle sites on the High Cascades Ranger District that are monitored annually, pairs were present at the Fish Lake site and one young successfully fledged. A 2nd or 3rd year eagle was also detected at the lake during the breeding season. There is one historic eagle site at Applegate Lake on the Siskiyou Mountains Ranger District that is monitored annually. However, no successful nesting has occurred at this site for several years.

Bald eagles were removed from the threatened species list by the US Fish and Wildlife Service in 2007. Bald eagles are protected through the Bald Eagle and Golden Eagle Act and are identified as a sensitive species on the Regional Foresters Sensitive Species list.

Peregrine falcon

State-wide, the peregrine falcon seems to be stable and increasing in a few areas. There are 11 peregrine falcon monitoring areas that the Forest monitored in FY 2014 (South Cascades and Siskiyou/Umpqua zone).

The South Cascades zone encompasses the area south of the Lane-Douglas county line, east of Interstate 5, and west of the Klamath Basin, including Crater Lake National Park. A total of 6 peregrine sites were monitored in the South Cascades zone on the High Cascades Ranger District. Annual monitoring at the 3 existing peregrine falcon sites was successful but young were not detected.

The Siskiyou/Umpqua zone includes the area west of Interstate 5 and south of the Lane-Douglas county line, excluding the coast. The Siskiyou/Umpqua zone includes the Wild Rivers Ranger District. Four (4) peregrine falcon nest sites were monitored in FY 2014 with 3 young fledged. One adult was observed in October, one adult and 3 young at a second site, one adult and one unconfirmed age at a third site and no birds observed at the fourth site. Three young were fledged, again, from a peregrine falcon site on the Siskiyou Mountains Ranger District.

Recommendations:

Based on these findings, monitoring indicates that management direction is being achieved on the Forest. In 2007 the bald eagle was removed from federal listing as threatened under the Endangered Species Act, the peregrine falcon was also delisted in 1999. Both bald eagles and peregrine falcons are now being managed as a Sensitive species on Forest Service lands.

Resources and Services to People

Monitoring Item – Off-Road Vehicle Use

Goal(s), Monitoring Question(s):

The goal is to provide motorized, off-road vehicle recreation opportunities that are compatible with the environmental setting, minimize adverse impacts on the land and resources, and control conflicts with other user groups of the National Forest System (NFS) lands. The monitoring questions include:

- Is the Forest providing off-road motorized recreation experiences that meet the needs of the public?
- Are unacceptable resource impacts occurring as a result of off-road vehicle use?

Findings and Evaluation:

There are currently about 3,180 miles of NFS Roads that allow mixed use, 240 miles of NFS Trails that allow motorized use, and 274,670 acres of the Forest that are open to cross country travel. Increased demand for motorized use, lack of designated areas/routes, has led to resource damage and social impacts, user conflicts, and safety concerns.

Recommendations:

The Forest released the Draft Supplemental Environmental Impact Statement (DSEIS) for the implementation of the 2005 Travel Management Rule in November 2011. Following release of the Record of Decision and (ROD) publication of the Motor Vehicle Use Map (MVUM) in 2015, roads and trails identified on that map will be designated as open to motor vehicle travel. All other roads, trails, and forest lands will be closed to motor vehicle travel. The MVUM will specify the classes of vehicles and, if appropriate, the times of year for which use is authorized. It will be updated and published annually and/or when changes to the Forest's transportation system are made. These numbers listed above may change with implementation of the 2005 Travel Management Rule.

Monitoring Item – Forest Transportation System

Goal(s), Monitoring Question(s):

The goal is to provide the roads necessary for management of the Forest's various resources, assuring that the mileages of roads open to safe passenger car use approximate Forest Plan levels, assuring that there is not an excessive number of roads, and that needed roads do not fall below maintenance standards. The monitoring questions include:

- What is the total mileage of roads on the Forest transportation System? How does this compare to the Forest Plan projections?
- What is the mileage of roads by each of the various road maintenance levels? Is this system effective at meeting the needs of the resources and the public?

Findings and Evaluation:

Policy changes in the last fifteen years have had a profound effect on how roads have been managed compared to when the thresholds of concern were formulated in the Rogue River and Siskiyou Forest Plans. In the past the primary purpose for road construction, reconstruction, and maintenance on the Forest was to enable timber harvest. With declining timber harvest came declining budgets for road maintenance. Reduced timber harvest levels have resulted in the need for significantly less miles of new road construction and reconstruction than anticipated in the forest plans. Also, the Forest has not had the means or ability to maintain its road system to the standards and maintenance levels of the past. This situation is being duplicated in Forests across the Nation, prompting the Forest Service to initiate a national Road Management Policy. This policy shifts our focus away from developing new roads to managing the existing road system with an emphasis on managing for the minimum road network necessary to accomplish current Forest Management objectives.

Rogue River-Siskiyou National Forest

The Forest decommissioned 5.8 miles of road in FY 2014 as part of the Copper Salmon Restoration Project. Future planning is focused on Sucker Legacy roads project on the Wild Rivers Ranger District. No new road construction occurred on the Forest in FY 2014. The Forest reconstructed 27.5 miles of road in FY 2014.

Table 7. Transportation system activities on the Rogue River-Siskiyou National Forest

	2014
Roads decommissioned	5.8 miles
Roads constructed	0 miles
Roads reconstructed	27.5 miles

Recommendations:

Though much of the road system is not at the levels predicted in the Forest Plans, the differences can be explained by changes instituted with the Northwest Forest Plan and changing policies. Adjustments should be made during the next Forest Planning effort to reflect current road management policy.

Monitoring Item – Mineral Development

Goal(s), Monitoring Question(s):

The goal is to provide for exploration, development and production of a variety of minerals on the Forest in coordination with other resource objectives, environmental considerations, and mining laws. The monitoring questions include:

- In providing for locatable and saleable minerals, are Forest Plan standards and guidelines for other resources being met? Are they effective?

Findings and Evaluation:

All Notice of Intents and Plan of Operations are reviewed and responded to in accordance with the Rogue River and Siskiyou Forest Plans, as amended. See table 8 for the number of Notice of Intents (NOIs) and Plans of Operation (PoOs) processed, active mining claims and abandon mine closures reported in 2014.

Table 8. Mineral development on the Rogue River-Siskiyou National Forest in FY 2014

	FY 2014
Notice of Intents processed	2
Plan of Operations processed	1
Recorded Claims	1086
Abandon Mine Closures	7

Recommendations:

Based on these findings, monitoring indicates that management direction for mineral development is being achieved on the Forest. However, the number of claimants developing their claims is dependent on the location and quality of the mineral deposit and market price fluctuations.

Monitoring Item – Land Ownership

Goal(s), Monitoring Question(s):

The goal is to achieve a pattern of land ownership that best supports resource goals, improves the efficiency of resource management, and demonstrates effective forest management. The monitoring questions include:

- Is the Forest making progress in meeting the goals of the Land Adjustment Plan? Are Standards and Guidelines being met?

Findings and Evaluation:

The Landownership Adjustment Plan for the Forest is no longer current. Developed in the early 1990s the landownership adjustment plan is out of date relative to current landownership management area objectives and priorities. The Northwest Forest Plan (1994) amended the Rogue River (1990) and Siskiyou (1989) Forest Plans which changed land management area designations and thereby will change the focus of the original land adjustment plan. There have been no updates to the Forest Land Adjustment Plan since implementation of the Northwest Forest Plan.

The Forest land adjustment program continues to be active. Currently, based in part on Northwest Forest Plan direction and objectives, Forest acquisitions and land adjustments are focused primarily on riparian, stream restoration opportunities, or specially designated areas. Acquisition of two parcels is underway to acquire lands within the original location of the Pacific Crest Trail, a National Recreational Trail. Those parcels are commonly known as Brown Mountain North, consisting of 82 acres and Brown Mountain South, consisting of 49 acres. Federal ownership of these parcels occurred during FY14. Future acquisitions are focused on two parcels located in the coastal range with benefits for aquatic and late-seral habitat. Specifically, these parcels are known as McGribble, consisting of 172 acres in SW Oregon's rugged Klamath Mountains and Sixes River, consisting of 3,185 acres. The McGribble parcel provides an opportunity to conserve Elk River watershed values for world-class salmon and steelhead. The Sixes River parcel provides an opportunity to expand the Grassy Knob Wilderness Area and preserve unique habitat for key streams contributing to the mainstem of the Sixes. The acquisition would benefit endangered species and species of concern.

The Forest is currently involved in efforts to sell one administrative site and facility considered excess to the Forest's need: the L Street Administrative site (3 acres) to be processed for a future sale (expected FY15).

In addition to land title, the Forest maintains survey boundary marking to delineate ownership lines for the protection and integrity of federally owned lands. To this end, the Forest maintained 9 miles of national forest boundary lines and marked 0 miles of national forest boundary not previously posted with markers.

Recommendations:

Based on these findings, monitoring indicates that management direction for land ownership is being achieved on the Forest.

Monitoring Item – Special Uses

Goal(s), Monitoring Question(s):

The goal is to issue special use authorizations for occupancy and use of the land in a manner consistent with the purposes of the National Forest System and the Forest Plans. The desired future condition is that all existing special use permits are consistent with the Forest Plan standards and guidelines, and FSM & FSH Direction. The monitoring questions include:

- Are special use permits consistent with the Forest Plan standards and guidelines?

Findings and Evaluation:

The special use permits prepared on the Forest are found to be consistent with the Forest Plan objectives. Approximately 408 special use permits were managed in FY 2014 (see table 9).

Table 9. Special use permits issued on the Rogue River-Siskiyou National Forest in FY 2014

	Recreation	Lands	Total
Special use permits managed	213	195	408
New permits issued	5	3	8
Permit renewals issued	8	5	13
Short term permits issued	17	1	18

Recommendations:

Based on these findings, monitoring indicates that management direction for special uses is being achieved on the Forest.

Monitoring Item – Land Suitability

Goal(s), Monitoring Question(s):

The goal is to manage for timber resources only on lands where technology exists to assure regeneration success within a specified time period. The monitoring questions are:

- Are timber management activities confined to suitable lands?
- Are unsuitable lands properly classified? Has a change in technology affected suitability classification?

Findings and Evaluation:

Rogue River National Forest

All timber sale harvest areas are routinely assessed for suitability for regeneration harvest. These assessments usually encounter slightly more area of unsuitable lands than was recognized in the Rogue River Forest Plan. Regeneration harvest is not prescribed on lands that have been verified as unsuitable. Some adjustments were made to the land base in the first few years of Forest Plan implementation.

There have not been any adjustments made to the land base in the last 5 years (2009-2014). Amount of such lands are felt to be insignificant at this time, but these changes are being tracked and will be incorporated into Forest Plan revision. There has been no change in technology that has or would affect land suitability classifications.

Siskiyou National Forest

The Siskiyou Forest Plan has a threshold of 10,000 acres change in suitability classification for the first 10 years. Monitoring shows there are no changes beyond the threshold. The Northwest Forest Plan substantially reduced the land base for programmed timber harvest. It also adjusted the level of timber harvest for the Siskiyou National Forest (24 MMBF/year).

Recommendations:

The overall finding is that results are acceptable, management direction is being achieved and current practices need to continue. There is a recommendation to incorporate the summation of land suitability changes at the end of the ten-year planning period or during Forest Plan revision.

Monitoring Item – Timber Offered For Sale

Goal(s), Monitoring Question(s):

The goal is to manage for timber resources and long term harvest levels, as directed by the Forest Plan. The monitoring question is:

- Is the Forest offering the volume of chargeable and non-chargeable timber, as assumed in the allowable sale quantity (ASQ) and the timber sale program quantity (TSPQ)?

Findings and Evaluation:

Rogue River National Forest

Under the Rogue River Forest Plan, the TSPQ was 123.0 million board feet (MMBF) or 22.81 million cubic feet (MMCF) per year. Various factors associated with old-growth and late-successional habitat, court injunctions, lawsuits and new land management decisions (i.e., the Northwest Forest Plan) have changed the amount of timber offered for sale. Under the Northwest Forest Plan, 26 MMBF has been determined to be the probable sale quantity (PSQ) for the Rogue River portion of the Rogue River-Siskiyou National Forest.

Table 10 shows the timber offered for sale and harvested since 1994. The table includes both chargeable and non-chargeable volume. In addition to density management thinning to promote forest health, timber volume comes from stand treatments designed for fuels reduction, wildlife habitat improvement, riparian area improvement, danger tree removal and salvage of dead timber.

Table 10 also shows the average offer for the last five years is substantially below the PSQ for the Rogue River portion of the Forest.

Table 10. Timber volume offered for sale and harvested on the Rogue River side of the Rogue River-Siskiyou National Forest

Fiscal year	Volume offered (MMBF)	Volume harvested (MMBF)
1994	14.7	47.0
1995	26.3	28.8
1996	22.2	20.4
1997	25.1	30.5
1998	19.7	19.1
1999	2.6	11.1
2000	0.6	10.6
2001	0.8	2.5
2002	6.4	14.0
2003	8.9	8.9
2004	0.3	8.0
2005	17.4	7.8
2006	19.1	4.0
2007	38.1	12.1
2008	46.8	10.7
2009	5.5	10.3
2010	11.0	13.9
2011	17.2	13.1
2012	16.2	12.4
2013	17.8	41.03
2014	6.3	31.3
Total	323.0	357.4
Average	15.4	17.0

Siskiyou National Forest

Under the Siskiyou Forest Plan, the TSPQ was 160 million board feet (MMBF) or 28.4 MMCF per year. Various factors associated with old-growth and late-successional habitat, court injunctions, lawsuits and new land management decisions (i.e., the Northwest Forest Plan) have changed the amount of timber offered for sale. Under the Northwest Forest Plan, 24 MMBF has been determined to be the PSQ for the Siskiyou National Forest.

Table 12 shows the timber offered for sale and harvested since 1994. The table includes both chargeable and non-chargeable volume. In addition to density management thinning to promote forest health, timber volume comes from stand treatments designed for fuels reduction, wildlife habitat improvement, riparian area improvement, danger tree removal and salvage of dead timber. Table 11 also show that the average offer for the last five years is substantially below the PSQ for the Siskiyou portion of the Forest.

Table 11. Timber volume offered for sale and harvested on the Siskiyou side of the Rogue River-Siskiyou National Forest

Fiscal year	Volume offered (MMBF)	Volume harvested (MMBF)
1994	8	12.0
1995	16	17.0
1996	28	56.0
1997	28	37.0
1998	24	20.0
1999	18	26.0
2000	1	13.0
2001	1.5	3.1
2002	14.3	1.3
2003	9.7	6.9
2004	72.2	18.9
2005	28.3	48.9
2006	27.8	23.3
2007	31.0	20.6
2008	15.6	4.2
2009	49.9	5.7
2010	14.7	7.3
2011	21.5	17.7
2012	19.7	28.0
2013	10.6	26.4
2014	8.5	29.6
Total	448.3	422.9
Average	21.3	20.1

Recommendations:

Based on these findings, monitoring indicates that management direction for timber offered for sale is not being achieved on the Forests. The average annual offer for both Forests (36.7 MMBF) is below the annual PSQ of 50.0 MMBF for both Forests. Management direction should strive to meet the PSQ on an annual basis.

Social and Economic

Monitoring Item – Payments to Counties

Goal(s), Monitoring Question(s):

The goal is to promote community and economic stability, viability, and development for the affected counties, in relation to timber harvest receipts. The monitoring questions include:

- What changes are occurring in the levels of payments to local counties surrounding the Rogue River-Siskiyou National Forest operations?

Findings and Evaluation:

Table 12 indicates that payments to counties are gradually declining over time. The losses coincide with reduced timber harvests and a reduction in overall reduced receipts of timber being sold. Long-term legislative relief at the National level is not forthcoming and legislative action is limited to one-year authorizations.

Table 12. Payments to counties

County	Fiscal year 2013	Fiscal year 2014
Del Norte County, California	$103,371	$96,389
Siskiyou County, California	$99,682	$92,962
Coos County, Oregon	$272,921	$259,157
Curry County, Oregon	$2,413,481	$2,375,492
Douglas County, Oregon	$640,292	$596,070
Jackson County, Oregon	$2,095,634	$2,063,634
Josephine County, Oregon	$1,640,253	$1,613,577
Klamath County, Oregon	$327,572	$314,909
Total	**$7,593,206**	**$7,412,190**

Recommendations:

The overall finding is that the results are in accordance with current laws and management direction. Legislation is changing, extended, or modified in order to assist counties with revenues lost due to reduced harvests. Current practices and monitoring should continue.

Part Two: Special Inventory and Monitoring Projects for FY 2014

Ashland Forest Resiliency Project Monitoring – Siskiyou Mountains Ranger District

The Record of Decision for the Ashland Forest Resiliency (AFR) project was signed in October 2009. The Forest Service analyzed AFR as an authorized hazardous fuels project pursuant to Sections 103 and 104 of the Healthy Forests Restoration Act of 2003. Section 102(g)(5) of the HFRA instructs the Forest Service to establish a collaborative multiparty monitoring, evaluation, and accountability process when significant interest is expressed in such an approach.

In June 2009, under a National Forest Foundation grant, The Nature Conservancy hosted community members and other interested stakeholders to collaborate on a multiparty monitoring strategy for the AFR project. The Multiparty Monitoring Strategy considered other ongoing or already planned monitoring and highlighted desired supplemental monitoring. Great emphasis was placed on implementation monitoring for which the Multiparty Monitoring Strategy proposed a technical and public review process to improve conformity with Project guidelines and to enhance quality control. This strategy also identified stakeholder values and priorities for the desired baseline and longer term effectiveness monitoring. In addition to helping inform the community about the effects of ongoing work in the watershed, data collected will also provide feedback to guide adaptive management of the AFR Project.

The AFR project is being implemented under a stewardship agreement between the Forest Service, the City of Ashland, The Nature Conservancy, and Lomakatsi Restoration Project. This is a ten year agreement in which workers will thin trees, brush and conduct controlled burns to help restore forest resiliency and protect Ashland's community and its domestic water supply from the effects of high severity wildland fire. The agreement initially includes dedication of over 6 million dollars of American Recovery and Reinvestment Act (stimulus) dollars, plus matching funds pledged by each partner.

Stakeholders have developed several monitoring priorities: water quality and quantity; aquatic habitat; large tree retention and survival; late successional habitat; birds as indicators; herbaceous recovery and response; and fire histories. Multiparty monitoring has involved cooperators from the U.S. Forest Service, The Nature Conservancy, Klamath Bird Observatory, the City of Ashland, the National Park Service, Southern Oregon University (SOU), the USFS Pacific Northwest Research Station, and the USFS Pacific Southwest Research Station. The partnership launched a new multipage website and science delivery portal: ashlandwatershed.org (a copy of the Multiparty Monitoring Strategy is posted on the website).

Wildlife Monitoring

A pellet study in the watershed conducted in the early 1990s suggested that northern spotted owl (NSO) diets are roughly 50/50 flying squirrels and dusky-footed woodrats, but little to nothing is known about the distribution and abundance of these critical prey items in the watershed. AFR fuel reduction/restoration treatments will avoid NSO nesting sites but may well alter habitat for both squirrels and woodrats. Baseline data on these two species could provide context for evaluating AFR treatment effects and/or the population dynamics of all species concerned over larger spatial scales; especially if protocols used are consistent with past research efforts on arboreal rodents within the broader NSO distribution. Four grids within the footprint of the AFR project have been established and have had at least one season of trapping pre-treatment.

Each grid consists of 128 traps. Post-treatment surveys will be conducted following implementation of fuels reduction work.

Fisher monitoring began in February of 2010 due to uncertainty as to the efficacy of the proposed mitigations for fisher, and a lack of research or literature on the effects of fuel reduction on fisher in the west. The Forest entered into a fisher monitoring program with the Pacific Southwest Research Station (PSW) in Fresno, California. Annual Fisher monitoring is association with the AFR fuels reduction project continues. To date 26 animals have been captured; 16 have been collared. Important pre and post treatment habitat use and home range data has been collected and will continue for at least the next two years. There is some evidence that these fisher continue to use commercially and non-commercially treated stands. Commercial treatments began in 2012 and will continue through 2017; fisher will be monitored to determine their response to those activities.

Small mammal trapping was initiated in the spring of 2011 (and continued in 2014) to determine how spotted owl and fisher prey species will respond to the project treatments. To date, 6 trapping grids of 128 traps per grid have been deployed, and many animals have been captured, marked, and released. Two flying squirrels and a Douglas squirrel have also been radio-collared and followed by volunteers in order to gather information about home range and habitat use.

Annual monitoring of landbirds, spotted owls, and small mammals continued in association with the AFR project to determine the response of those species to fuels reduction. Oregon State University is assisting with monitoring 11 owl sites, and radio telemetry of 17 woodrat den sites. Klamath Bird Observatory is assisting with landbird monitoring (several point count transects and one MAPS long-term monitoring mist net station), and the Pacific Northwest Research Station is assisting with small mammal trapping.

Soil Disturbance and Effective Ground Cover

Goal(s), Monitoring Question(s):

Implementation monitoring assesses whether treatments were implemented according to design, including appropriate mitigation measures and management constraints. AFR stakeholders elevated the importance of securing baseline data to inform the project design and, if gathered in the future, to document changes resulting from the treatment for future reference and how these changes compare to planned changes. The following questions form the basis for the implementation monitoring basic to the project:

1. Were treatments implemented according to design criteria, including appropriate mitigation measures and management constraints, outlined in the plans for the project and the subsequent decision?
2. Were fire hazard reduction treatments implemented according to the schedule outlined in the decision document?
3. Did the treatments meet or exceed key Rogue River Forest Plan standards and guidelines for direct effects?
4. Did the resultant vegetation composition and fuels conform to conditions intended in the plans for the project?

Questions 1 and 3 are particularly relevant to soil disturbance and effective ground cover and are the focus for this monitoring.

Findings and Evaluation:

Skidder-yarded commercial harvest units were targeted for implementation monitoring of effective ground cover in FY13, as well as one helicopter commercial harvest unit. Baseline, pre-project implementation data had been collected on four units in 2013 and post-implementation effective ground cover monitoring was targeted for these units. Also the pre- and post-harvest monitoring was collected on two new units (including the helicopter unit, 67E). No units were monitored in FY14.

Effective Ground Cover (EGC)

No effective ground cover data was collected in FY14 because it had been completed for the target ground-based units in previous years. Refer to the FY13 report for summary monitoring results.

In general, all units prior to skidder-yarding and helicopter activities, and post-implementation monitoring, show effective ground cover standards and guidelines were met, and are well within the requirements for both the Record of Decision for the AFR Project, and the Rogue River National Forest LRMP (as amended by the NWFP). Utilizing slash over bare soils is showing to be effective at protecting the soil surface from rain splash soil particle displacement and sheet wash erosion, as well as effectively preventing rill erosion.

Soil Disturbance

Soil disturbance data was collected using the Forest Soil Disturbance Monitoring Protocol, GTR-WO-82a & 82b (Page-Dumroese et al. 2009). Soil disturbance classes are based on specific site descriptors and soil visual indicators, such as depth of wheel tracks, amount of displacement, depth of change in soil structure, etc. The determination of the percent in a condition that is detrimental to long-term productivity is based on cumulative observations made at each sample point; observations to date have found detrimental conditions in a mix of class 2 and 3 disturbances. Monitoring focused on collecting the baseline condition of soils in planned skidder-yarded commercial harvest units; a summary of results is displayed in table 13. More information about methods can be found in the detailed monitoring reports located in the Rogue River-Siskiyou National Forest Soils Program Files.

The Forest does not have any new data to report for FY14 because post treatment monitoring achieves best results 1 or 2 years after treatment. This allows more accurate data and will be performed during the 2015 CY field season. Efforts will be done to capture both detrimental soil effects along with pile burn scars for total project impacts to the soils resource. Therefore, additional information will be forthcoming in the FY15 monitoring report.

The Rogue River National Forest Plan standard and guideline for soil disturbance requires that no more than 20 percent of an activity area should be displaced or compacted resulting from previous management practices. The Forest expects that the six AFR units being monitored are within this standard and guideline for soil disturbance cumulative effects. It is important to note that unit 281 has residual ground disturbance impacts from past mining and historic homestead activities as well as vegetation management activities.

Based on the data collected, the following design element for soils and site productivity, from attachment A of the AFR Record of Decision, is applicable for implementation on the above-mentioned six units:

> (2) For areas where less than **20 percent** of the site is in a detrimental soil condition from prior activities, design projects such that detrimental soil conditions do not exceed the

existing condition plus 5 percent (not including the permanent transportation system) with the total detrimental effect following project implementation and restoration not to exceed 20 percent, including the permanent transportation system.

Recommendations:

Complete post-implementation detrimental soil disturbance on AFR units 281, 282, 283, 67F, 67 E and 65. Continue with monitoring of new units as implementation of the AFR Project progresses. Monitoring expected FY15 based on funding to accomplish tasks.

Bat Species Distribution and Census (Oregon Bat Grid) – High Cascades Ranger District

The objective of this monitoring is to participate in the interagency Oregon Bat Grid census effort to determine species distribution and habitat use by the various Oregon bat species. The Pacific Northwest was divided into a grid and randomly selected cells were chosen for sampling. One cell falls on the southern end of the High Cascades Ranger District. Inside this cell, 4 sites are mist netted every year and 4 additional sites are acoustically sampled. The same sites may be netted more than once in a given year. Mist netting consists of spreading mist nets above small water drinking areas and collecting all bats netted within a 4 hour period. Captured bats are identified to species (where possible), sex, and age. Various measurements are taken and a sample of the call is recorded. For some hard to distinguish species, DNA samples are collected from a wing for subsequent positive identification. The local work is being carried out by the Medford BLM with assistance from Forest Service personnel. This data will assist the Forest Service and BLM in determining trends in bat species across Oregon over the long-term. Data on this effort is entered into the NRIS Wildlife database annually by the Regional Office.

On-going surveys were completed in FY 2014 at three sites on the Forest. Twenty five (25) bats were captured, which included individuals from six species. This work has only been occurring since 2006 and fluctuations in weather and temperatures make week to week and even year to year captures rates highly variable, consequently no trend analysis can be made at this time. It may take several more years to observe any trends at these sites.

OSU Marten Study – Powers and Gold Beach Ranger Districts

In 2014 Oregon State University (OSU) began a research project aimed at determining the range extent of the Pacific marten (*Martes caurina*) in southwestern Oregon. Survey techniques for this species were also assessed during this research project. Game cameras and hair snags were placed at random sample plots across the Powers and Gold Beach Ranger Districts within the Pacific marten's historic range. DNA tests were run on collected hair samples to determine if the specific subspecies of the marten was indeed the hypothesized *M. c. humboldtensis* subspecies (Humboldt marten). Though specific data has not yet been finalized, personal communication between the Gold Beach Ranger District's biologist and the OSU survey lead indicate that marten images were captured at many of the survey stations most specifically associated with a very heavy brush component. Preliminary results from the DNA testing also suggest these martens are Humboldt martens. Based on these results, the OSU research will continue into 2015 with focus more on sites associated with the heavy brush component.

Invertebrate Monitoring – Gold Beach and High Cascades Ranger Districts

On both the High Cascades and the Gold Beach Ranger Districts newly discovered mardon skipper sites are being monitored annually for occupancy and abundance in conjunction with the Xerces Society, partners in invertebrate conservation in the Pacific Northwest. The Forest resurveyed the two known sites on the Siskiyou side of the Forest and 350 acres of potential habitat.

Of the two known sites, Windy Valley supported a population of mardon skippers in 2014 while 100 Road meadow resulted in no observations. Though the 100 Rd meadow has one reported mardon skipper identification from a previous year, the site has been deemed unsuitable due to heavy disturbance from cattle and off-road vehicles, xeric conditions, and rocky ground cover. This site will continue to be monitored into the future on the slight chance the skipper may again utilize the site. There are not trends to report on the Windy Valley site, as it is a relatively new site. Based on 2014 distance sampling surveys, Xerces estimated a population between 1,390 and 2,490 individuals.

The Forest lacked funding in FY14 to perform additional invertebrate surveys.

Part Three: Contributions to the Forest Service National Strategic Plan

As was mentioned in the introduction to this report, a new requirement was introduced in 2010 to provide "a description of the plan area's contribution to the achievement of applicable outcomes of the Forest Service national strategic plan." This section is designed to meet that requirement, and will focus on those applicable to the Rogue River-Siskiyou National Forest in FY 2014.

GOAL 1. Restore, Sustain, and Enhance the Nation's Forests and Grasslands

- The Forest **reduced the risk to communities and natural resource from wildfire** through implementation of several projects, including the Ashland Forest Resiliency Project which is reducing fuel loads in the Ashland Watershed outside of the community of Ashland, Oregon.
- Fire crews on the Forest **suppressed wildfire efficiently and effectively** in 2014.
- The Forest **reduced adverse impacts from invasive and native species, pests, and diseases** through various projects, including treating eighty-nine acres of Sudden Oak Death infestation in the Wheeler Creek drainage and Nook Bar on the Chetco River sites to prevent sprouting new Sudden Oak Death infestation.
- Implementation of aquatic restoration projects in several of the priority watersheds on the Forest, described under the "Anadromous and Resident Fish Habitat' section, contributed to **restoration and maintenance of healthy watersheds and diverse habitats**.

GOAL 2. Provide and Sustain Benefits to the American People

- The Rogue River-Siskiyou National Forest contributed to providing a **reliable supply of forest products over time**, offering 12 million board feet (MMBF) of timber in FY2014.
- The Forest also contributed to providing a **reliable supply of rangeland products over time**, administration of range allotments on the Forest.

GOAL 3. Conserve Open Space

GOAL 4. Sustain and Enhance Outdoor Recreation Opportunities

- The **quality and availability of outdoor recreation experiences** were improved on the Forest through improvement projects at several recreation sites across the Forest.

GOAL 5. Maintain Basic Management Capabilities of the Forest Service

- The Forest contributed to **improving the administration of national forest lands and facilities in support of the agency's mission** by conveying the L Street facilities out of federal ownership. Conveyance of these properties out of federal ownership will free up funding for maintaining other administrative facilities to standard. In addition, improvements were made to the J. Herbert Stone Nursery with updated water system and building repairs.

GOAL 6. Engage Urban America with Forest Service Programs

GOAL 7. Provide Science-Based Applications and Tools for Sustainable Natural Resource Management

- The forest contributed to the Rogue Valley Cohesive Restoration Strategy by participating in the Southern Oregon Forest Restoration Collaborative.

Part Four: Forest Plan Amendments

Forest plans are dynamic documents that can be amended in response to:

- Errors and/or discrepancies found during implementation.
- New information.
- Changes in physical conditions.
- New laws, regulations, or policies that affect National Forest management.

We frequently learn about the need for amendments through monitoring. Since the Rogue River Forest Plan was first published in 1990 and the Siskiyou Forest Plan in 1989, there have been a number of amendments to the forest plans. Notably, the 1994 Northwest Forest Plan which amended all forest plans in the range of the northern spotted owl. Since all forest plans were amended at the regional level, the amendment did not receive a number.

Rogue River National Forest

Table 13 summarizes the amendments to the Rogue River Forest Plan.

Table 13. Forest Plan amendments – Rogue River Forest Plan

Amendment	Implementation date	Type of change
1	10/3/1990	Vacated 1988 Record of Decision for the Supplement to an Amendment to the Pacific Northwest Regional Guide: The Secretary of Agriculture vacated the 1988 Record of Decision for the Supplement to an Amendment to the Pacific Northwest Regional Guide, and amended all final Forest Plans to return Spotted Owl Habitat Areas (SOHAs) to the land classification of adjacent lands by notice in the Federal Register on October 3, 1990. Also, management activities are to be not inconsistent with the Interagency Scientific Committee recommendations for the conservation of the northern spotted owl.
2	3/2/1992	Correction to oversight in MA 5 (Special Interest): Amended the Forest Plan and Map to correct an oversight in a land allocation; MA 5 (Special Interest) was inadvertently allowed to mask MA 4 (Developed Recreation). Also corrected an acreage figure (numbers were transposed) in table 4-3.
errata	11/5/1992	Corrections to the Rogue River National Forest Plan: Corrections were made to change typographical errors, to correct an oversight to Amendment #2, and make improvements to two Forest Plan tables to make them easier to understand. Corrections were made on page 1-3, page 4-16 in table 4-6, page 4-31, page 4-32 in table 4-9, page 4-53, page C-2, MA 14 page 4-172, MA 16 page 4-198, MA 21 page 4-257, and MA 23 page 4-283.
errata	12/11/1992	Corrections to the Rogue River National Forest Plan (Correction #1): Corrections were made on page 1-3, page 4-16 in table 4-6, page 4-31, page 4-32 in table 4-9, page 4-53, page 4-172, page 4-198, page 4-257, page 4-283.
3	2/2/1993	Amendment to Wild and Scenic River land allocation table: Corrected table 4-3, Land Classification by Management Area (page 4-14) to be consistent with the description of the area allocated to MA 10 (Wild River) and 11 (Scenic River) (i.e., 1/4 mile on each side of the river).
4	3/2/1993	Activity Schedule Update: Updated the activity schedules shown in appendix A.

Amendment	Implementation date	Type of change
5	12/16/1993	Incorporation of the Upper Rogue River Management Plan into the Rogue River National Forest Plan: Designates what the management regime will be for the Wild and Scenic Upper Rogue River. A total of 40.3 miles was designated into the National Wild and Scenic Rivers System: the 0.5 mile segment from the northern Forest Boundary to 0.1 miles below Forest Road 6530-760 bridge crossing is classified as a Scenic River, the 5.9 mile segment from 0.1 miles below Forest Road 6530-760 bridge crossing to 0.1 miles above Forest Road 6530 bridge crossing is classified as a Wild River, and the 33.9 mile segment from 0.1 miles above Forest Road 6530 bridge crossing to the southern Forest Boundary near Prospect is designated as a Scenic River.
errata	1/21/1994	Corrections to the Rogue River National Forest Plan (Correction #2): Corrections were made to include pruning as an acceptable silvicultural practice on the Rogue River Forest (pages 4-78, 4-92, 4-106, 4-118, 4-141, 4-171, 4-242, 4-257, and 4-282).
6	8/19/1996	Minerals Operations in Riparian Reserves; Standards and Guidelines MM-1, Northwest Forest Plan (NWFP): Standard and guideline MM-1 was amended to read: (a) "Require a reclamation plan, approved Plan of operations, and reclamation bond for mineral operations that are likely to significantly retard or prevent attainment of the Aquatic Conservation Strategy objectives. Such plans and bonds must address the costs of removing facilities, equipment, and materials; recontouring disturbed areas where practicable, to near pre-mining topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvage and replacement of topsoil; and seedbed preparation and revegetation to meet Aquatic Conservation Strategy objectives." and (b) "The responsible official will document the basis for a determination that the proposed activity would not likely cause significant disturbance of surface resources nor significantly retard or prevent attainment of the Aquatic Conservation Strategy objectives. If this determination were made, it would not necessitate submission of a Plan of Operation." The document also made two corrections: Correction 3 - Rewording of LRMP Standards and Guidelines from five years after sale closure for wildlife snags creation, to three years from sale closure; and Correction 4 - Removal of *Buxbaumia piperi* (a species of moss) from list of survey and manage species; page C-27, Northwest Forest Plan; and Change of Survey Status for the lynx: Level 2 to Level 3, Standards and Guidelines, Northwest Forest Plan.
N/A	5/24/1996	Refinement to the Standards and Guidelines for coarse woody material (CWM): Refined the Matrix prescription and provided a process to be used in Late-Successional Reserve and Riparian Reserve allocations and, when necessary, to develop coarse wood prescriptions.
errata	2/27/1997	Corrections to the Rogue River National Forest Plan (Correction #3): Reworded the current Standards and Guidelines for Wildlife, Fish and Plants under Woodpeckers (Cavity Nesters) to read: "Green merchantable trees will not be utilized for wildlife snags, regardless of the situation, until at least 3 years after project completion (sale closure), in order to capture any mortality that may occur during that time. This will allow an assessment to be made of any additional snags that may have been created through post-sale operations, disease, etc."

Amendment	Implementation date	Type of change
N/A	1/9/2006	Amendment to add the Huckleberry Patch Special Interest Area (SIA) to the Forest Plan: Additional language was added to chapter 4, under Recreation and Timber, that would: designate 4,714 acres on the Rogue River side of the divide as a Special Interest Area, and include its acreage in SIA calculations and descriptions; encourage management activities that would benefit the recognition of the cultural, historic, and traditional values, as well as encourage production of huckleberries; require appropriate tribal consultation for projects on the Forest; address activities that may occur within the SIA; and clarify direction for overlapping management strategies and allocations. The SIA is a total of 9,497 acres and is located on both the Rogue River and Umpqua National Forests.

Siskiyou National Forest

Table 14 summarizes the amendments to the Siskiyou Forest Plan.

Table 14. Forest Plan amendments – Siskiyou Forest Plan

Amendment	Implementation date	Type of change
1	8/19/1991	Clarification of restocking period: Amended Standard and Guideline 6-7 (page IV-40) to delete wording that permitted consideration of a restocking period of more than 5 years.
2	12/23/1991	Incorporating Long-term Site Productivity Research Site as an Administrative Study Area: Amended the Forest Plan to incorporate the Integrated Research Site for Long-term Site Productivity Research as an administrative study area and to establish standards and guidelines for the 750-acre area.
3	4/27/1992	Adjustment to project implementation schedules (Appendices B and C) of the Forest Plan: Amended (and updated) the project implementation schedules.
4	7/16/1992	Land Exchange: Land exchange: selected lands from Management Area 14 - General Forest, 40 acres; acquired lands allocated to MA 2 (Wild River) 127 acres, MA 7 (Supplemental Resource) 80 acres, MA 11 (Riparian) 35 acres, MA 13 (Partial Retention Visual) 208 acres.
5	7/30/1992	Addition of "Emerald Canyon" as a Unique Interest Area: Changed the "Emerald Canyon" area (77 acres) from Management Area 7 (Supplemental Resource Area) to Management Area 5 (Unique Interest Areas). This area (sec. 31 and 32, Township 36 South, Range 12 West, of the Willamette Meridian, Curry County, Oregon) is located on the mainstem of Lawson Creek, near the confluence of the North and South Forks of Lawson Creek, on the Gold Beach Ranger District.
6	7/23/1993	Incorporation of the Chetco River Management Plan into the Siskiyou National Forest Plan: Designates the management regime for the Chetco Wild and Scenic River. A total of 44.5 miles was designated into the National Wild and Scenic Rivers System: the 27.5 mile segment from the headwaters to Mislatnah Creek is classified as a Wild River, the 7.5 mile segment from Mislatnah Creek to Eagle Creek is classified as a Scenic River, and the 9.5 mile segment from Eagle Creek to the Forest Boundary is designated as a Recreational River.

Amendment	Implementation date	Type of change
6a	9/21/1993	Port-Orford-cedar Disease Control - Forest Road 1376: Provided for reduction of Port-Orford-cedar (POC) introduction from milepost 21.2 to 28 on Forest Road 1376 through: sanitation removal of roadside POC, road drainage improvements, a one-way road access restriction in the wet season (approximately October 1 to June 1) and during wet weather in the dry season (June 1 to October 1). This is related to Forest Plan Standard and Guideline 12-8, Management of Port-Orford-cedar.
N/A	9/22/1994	Incorporation of the Elk River Wild and Scenic River Management Plan into the Siskiyou National Forest Plan: Designates the management regime for the Elk Wild and Scenic River. A total of 19 miles was designated into the National Wild and Scenic Rivers System: the 17 mile segment from the confluence on the North and South Forks of the Elk to Anvil Creek is classified as a Recreational River, and the 2-mile segment of the North Fork Elk from the falls to its confluence with the South Fork is classified as a Wild River.
N/A	4/1/1996	Minerals Operations in Riparian Reserves; Standards and Guidelines MM-1, Northwest Forest Plan (NWFP): Standard and Guideline MM-1 was amended to read: (a) "Require a reclamation plan, approved Plan of Operations, and reclamation bond for mineral operations that are likely to significantly retard or prevent attainment of the Aquatic Conservation Strategy objectives. Such plans and bonds must address the costs of removing facilities, equipment, and materials; recontouring disturbed areas, where practicable, to near pre-mining topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvage and replacement of topsoil; and seedbed preparation and revegetation to meet Aquatic Conservation Strategy objectives." and (b) "The responsible official will document the basis for a determination that the proposed activity would not likely cause significant disturbance of surface resources nor significantly retard or prevent attainment of the Aquatic Conservation Strategy objectives. If this determination were made, it would not necessitate submission of a Plan of Operation."
9	3/21/2000	Incorporation of the North Fork Smith River Wild and Scenic River Management Plan into the Siskiyou National Forest Plan: Designates the management regime for the North Fork Smith Wild and Scenic River. A total of 13 miles was designated into the National Wild and Scenic Rivers System: the 4.5 mile segment from the headwaters to Baldface Creek is classified as a Wild River, the 6.5 mile segment from Horse Creek to Baldface Creek is classified as a Scenic River, and the 2 mile segment from Baldface Creek to the Oregon-California State line is classified as a Wild River.

Rogue River and Siskiyou National Forests

Table 15 summarizes the amendments to both the Rogue River and Siskiyou Forest Plans.

Table 15. Forest Plan amendments – Rogue River and Siskiyou Forest Plans

Amendment	Implementation date	Type of change
N/A	10/11/2005	Invasive Plants Program: Preventing and Managing Invasive Plants: Added invasive plant management direction to all National Forest Land and Resource Management Plans in Region 6. The management direction includes invasive plant prevention and treatment/restoration standards intended to help achieve stated desired future conditions, goals and objectives. The management direction is expected to result in decreased rates of spread of invasive plants, while protecting human health and the environment from the adverse effects of invasive plant treatment.
N/A	10/22/2010	Fire Use Amendment: Changed fire management direction (Standards and Guidelines) to allow for the use of unplanned fire to obtain desired ecological conditions for resource benefit, removed or changed LRMP direction that restricts the range of response options available, and updates (outdated) fire terminology used in Forest Plan direction.

Interdisciplinary Team Members

Selected Items for the FY 2014 Report

Air Quality	Jon Lamb
Soil Productivity	Joni Brazier
Silvicultural Harvest Methods	Ken Wearstler
Insect and Disease Activities	Ellen Goheen
Anadromous and Resident Fish Habitat	Susan Maiyo, Chris Park
TES Species: Spotted Owl	Dave Clayton
TES Species: Bald eagle and Peregrine falcon	Dave Clayton, Holly Witt
Off-Road Vehicle Use	David Krantz
Forest Transportation System	Peggy O'Keefe
Mineral Development	Robert Shoemaker
Land Ownership	Kevin Heikkila
Special Uses	Gary Einck, Sue Laurance
Land Suitability	Dave Zimmerman
Timber Offered for Sale	Jim Campbell
Payments to Counties	Jim Campbell

Special Inventory and Monitoring Projects for FY 2014

Ashland Forest Resiliency Project	Don Boucher, Joni Brazier, Dave Clayton
Bat Species Distribution and Census	Dave Clayton
Osprey Monitoring	Dave Clayton
Invertebrate Monitoring	Dave Clayton

Forest Plan Amendments

Forest Plan Amendments Compilation	Ken Grigsby

Organization and Report Compilation

Organization and Report Compilation	David Krantz

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