



United States
Department of
Agriculture

Forest Service

Pacific
Northwest
Region



Monitoring and Evaluation Report

Willamette National Forest

Fiscal Year 2011



*Ames Creek,
Sweet Home, Oregon*

Welcome to the 2011 Willamette National Forest annual Monitoring and Evaluation report. This is our 23th year implementing the 1990 Willamette National Forest Plan, and this report is intended to give you an update on the services and products we provide. Our professionals monitor a wide variety of forest resources and have summarized their findings for your review.

As I reviewed the Forest Plan Monitoring Report I got an opportunity to see the work our specialists are doing in one place and I can't help but share my appreciation with what the Willamette's resource specialists are accomplishing. I am overwhelmed by the effort our professionals are doing to get the work done and complete necessary monitoring under declining budgets. Our specialists have entered into partnerships, written grants, and managed volunteers in addition to working with numerous local and federal agencies. We are in the community and hope you enjoying the forests.

I invite you to read this year's report and contact myself or my staff with any questions, ideas, or concerns you may have. I appreciate your continued interest in the Willamette National Forest.

Sincerely,



MEG MITCHELL

Forest Supervisor
Willamette National Forest

r6-will-009-11

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MONITORING AND EVALUATION REPORT

This report focuses on the monitoring and evaluation process described in Chapter V of the Forest Plan. The document provides an overview on how the Plan's management direction is being implemented and an evaluation of the current conditions. The questions and the answers have changed as conditions have changed and new information has become available.

If you would like an additional copy of this report contact Judy McHugh (541 225-6305) or write to: Willamette National Forest; 3106 Pierce Parkway Suite D; Springfield, OR 97477.

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Introduction and Background

The Land and Resource Management Plan (Forest Plan) for the Willamette National Forest was approved by the Regional Forester on July 31, 1990. We began implementing the Forest Plan on September 10, 1990.

The Forest Plan is the basis for integrated management of all the Forest's resources. It designates areas of resource management emphasis based on the capabilities of these areas and the differing levels of goods and services that are projected to come from them. The Forest Plan also specifies monitoring and evaluation requirements to provide information necessary to determine whether promises are being kept, and to assure assumptions made during analysis are valid.

On April 13, 1994, the Secretaries of the Departments of Agriculture and Interior signed a Record of Decision for the Management of Habitat for Late-Successional and Old-Growth Forest Related Species, referred to as the Northwest Forest Plan or NWFP, which amended the Forest Plan by establishing new land allocations (management areas) and standards and guidelines (S&Gs). The implementation of these new management areas and S&Gs began May 20, 1994.

Monitoring Strategy

To meet the challenge of monitoring, the Willamette National Forest developed a strategy designed to address questions asked in the monitoring section of the Forest Plan (Chapter V) and to assure compliance with the Standards and Guidelines established in the Northwest Forest Plan. The basic elements of that strategy were:

1. *Identify the monitoring that is currently being done on the Willamette National Forest.*
2. *Supervisor's Office Staff develop plans and programs to address the questions asked in the monitoring section of the Forest Plan (Chapter V).*
3. *Forest Supervisor and Staff review at least one project on each District. The focus of that review being to determine, "Did we do what we said we would do?"*
4. *Publish a report displaying the results of monitoring and an evaluation reviews.*

The measure used in the Forest Plan monitoring questions is the "Threshold of Variability" or TOV. The TOV is a threshold that when exceeded triggers further

investigation to determine a proper course of action. For many questions the TOV has been exceeded due to the subsequent Northwest Forest Plan that materially altered many outputs predicted in the Forest Plan. Moreover, given the time since implementation of the Forest Plan methods in monitoring the data has changed and the TOV is no longer applicable. Where the TOV no longer provides useful information, a narrative and data will still be provided. A Forest Plan revision scheduled to begin around 2014 will alter predicted outputs to a level probable under the Northwest Forest Plan.

Monitor and Evaluation

Monitoring and evaluation provide the control system over management activities on the Willamette National Forest. Monitoring and evaluation each have distinctly different purposes.

Monitoring is gathering information and observing management activities. Forest Plan monitoring is organized into three levels:

Implementation Monitoring is used to determine if the objectives, standards, guidelines, and management practices specified in the Forest Plan are being implemented. "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. "Are the management practices producing the desired results?"

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. "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 amendments or revisions.

This report emphasizes the question, "Did we do what we said we were going to do?" as well as reporting the progress that is being made on questions of effectiveness and validation. This approach is consistent both with the first assumption behind our Forest Plan monitoring strategy and the last guarantee in the Forest Plan Guarantee that promises we will show you how we are implementing the Plan. Typically, several years of effectiveness and validation monitoring results are needed to permit meaningful evaluation of trends against baseline data. These trends are revealed and discussed throughout the report when they become evident

Summary of Monitoring Findings

A review of the monitoring activities, findings and results for the fiscal year 2011 is presented in the following section. This section is organized in five major headings covering the range of resources monitored on the forest.

Physical Resources

The Forest Standards and Guidelines provide direction to enable the Forest to meet the goals of maintaining and improving water quality, soil productivity, and air quality. These Standards and Guidelines also provide direction to prevent, detect, and with few exceptions suppress fires. Below is a summary of FY10 monitoring

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Summary Results
Water Quality
Soil Productivity
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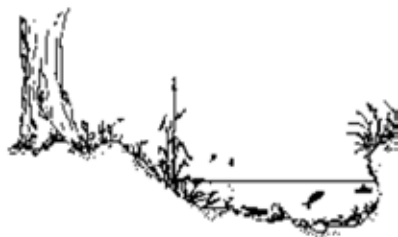
questions designed to assist the Forest Supervisor in determining the effectiveness of the Forest Plan Standards and Guidelines to meet the goals of protecting, maintaining, and improving the physical environment of the Forest.

If the reader is interested in more information than what is provided in the following summary they may request the documents listed under “Supplemental Information”.

PHYSICAL RESOURCES SUMMARY FINDINGS

Physical Resource	Monitoring Question	Monitoring Activities	Monitoring Results	Supplemental Information
<i>Water Quality</i>	25 - Water temperature	Water sampling	Results OK	Water quality FY11 monitoring report
	26 - Water turbidity	Field evaluations	Results OK	
	27 - Peak flows	No formal monitoring in 2008	No new results	
	30 - Lake quality	Field monitoring	Results OK	
<i>Soil Productivity</i>	32 - Soils, mass movement	On-site visits	Results OK	Soil FY11 monitoring report
	33 - Soil productivity, mass movement	Routine monitoring	Results OK	Water quality FY11 monitoring report
	34 - Soil productivity	Site visits and implementation monitoring	Results OK	
<i>Air Quality</i>	35 - Air quality	Reported smoke intrusions, lichen surveys	Results OK	Fire Management and Lichen FY11 monitoring reports
<i>Fire</i>	36 - Fire protection	District reports	No new results	Fire Management FY11 monitoring report
	37 - Fuels treatment	Forest report	No new results	

Water Quality



Monitoring Questions 25 & 26: Water Quality: Temperature and Turbidity

Are Standard and Guidelines effective in meeting State Water Quality Standards for turbidity and temperature?

In October 2006, Oregon Department of Environmental Quality issued the Willamette Total Maximum Daily Load (TMDL) for point and non-point sources of pollutants in the Willamette Basin. This TMDL was completed by the State as a requirement under the Clean Water Act and focused primarily on water temperature, analyzing shade as a surrogate for water temperature. As Designated Management Agencies required by law to meet requirements of the Willamette TMDL, the Willamette and Umpqua National Forests jointly submitted a Water Quality Restoration Plan (WQRP) in April 2008, serving as an implementation plan for the TMDL for the North Santiam, South Santiam, McKenzie River, Middle Fork Willamette, and Coast Fork Willamette Sub-basins (USDA Forest Service, 2008). This WQRP outlines how ongoing active and passive restoration will address critical riparian shading needed to protect and enhance surface water temperatures on the Forest. Given the completion of both the Willamette TMDL and the corresponding WQRP, all streams listed on the 303d list on Willamette National Forest were removed from the updated list in 2010. Through implementation of Forest Plan Standards and Guidelines and adherence to the Northwest Forest Plan, management of stream-side areas is contributing to a trend of improved riparian conditions that will lead to maintained or enhanced water quality over the long term.

All streams were removed from the 303d list in 2010. Streamside areas are contributing improving riparian conditions.

Number of summer water temperature sites successfully monitored on the Willamette National Forest, summer 2011.

	Total # of Sites Successfully Monitored	# of Sites Exceeding Standards	# of Sites Meeting Standards
<i>Forestwide</i>	88	31	57

Each year the Forest measures summer water temperature at several sites to establish reference conditions and answer specific questions about forest management or watershed restoration projects associated with species listed under the Endangered Species Act. In 2011, 88 sites were successfully monitored during summer, and of these 88 sites, 31

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showed a 7-day average maximum temperature exceeding salmon and trout rearing and migration standards (16-18°C), the core cold water habitat standard (16°C) or the bull trout spawning and rearing standard (12°C) established by Oregon Department of Environmental Quality (ODEQ). These maximum water temperature conditions occurred primarily in July and August, which is typical of past summer water temperature monitoring on the Willamette National Forest. Generally, those sites that exceeded standards occurred in wider main stem channels with less riparian shade, while the cooler water sites tended to be associated with headwater streams and small tributaries with better vegetative cover and contribution from cold water springs at the base of High Cascades geology.

Detroit Ranger District's data has been selected in a climate changed study.

Starting in 2011, the Willamette National Forest and several other Forests in Oregon and Washington have begun an effort to migrate all its high quality water temperature data into a national database. Longer datasets of our Detroit Ranger District have been selected to be used as part of a Climate Change study being conducted in the western United States by the Rocky Mountain Research Station and others. In addition, the Aquatic and Riparian Effectiveness Monitoring Program, set up in 1995 to monitor the effectiveness of the Northwest Forest Plan in Region 6, has begun to put out year-round temperature monitoring devices throughout Oregon and Washington, including sites on the Willamette National Forest.

New national protocols are soon to be released providing a consistent sent of BMPs.

Monitoring Question 26 is also concerned with water quality as measured by turbidity levels. While Forest personnel rely on real-time data provided by USGS gauging stations across the Forest, most efforts revolve around the implementation and monitoring of Best Management Practices (BMPs) for projects that involve ground-disturbing activities. Environmental Assessments completed for these projects include design criteria that designate the BMPs necessary to prevent sediment from entering streams in quantities greater than background levels of variability. In addition, a new set of national protocols are soon to be released to provide a consistent set of BMPs to be used, monitored and documented in a national database.

Also pertinent to the topic of sediment is the Willamette National Forest's Travel Analysis Process (TAP) being conducted in accordance with the Forest Service Travel Management Rule (2005). Sub-part A of this rule requires that each national forest designate a minimum (sustainable) and affordable road system that will meet administrative and public needs while protecting aquatic resources to the greatest extent possible. Preparations for this analysis began in 2011 and will commence 2012-2015 as required by the rule. As part of this analysis, risk for both acute and chronic sources of sediment from roads into streams will be analyzed. If analysis reveals that there are roads with high risk to aquatic resources and have low need for administrative or public purposes, they will be treated to

reduce or eliminate that risk. Maintenance of the open road network will continue to be prioritized based on where the highest risk to aquatic resources occurs on the Forest.



Monitoring Questions 27: Water Quality: Peak Flows

Are management practices causing changes in stream flows?

No new monitoring was conducted in 2011 for stream flow by the Willamette National Forest. As mentioned above, historic and real-time data from USGS gauging stations are used for flow data across the Forest. Modeling of the potential changes to peak flows as part of timber harvest on Forest was done for four landscape level vegetation treatment environmental assessments using the Aggregate Recovery Percent methodology prescribed in the Willamette National Forest Land and Resource Management Plan (1990). In each case, this modeling showed that peak flows would not be deleteriously affected by vegetation thinning in each respective watershed.



Monitoring Questions 30: Water Quality: Lakes

Are Standards and Guidelines for Water Quality and Riparian Areas effective in maintaining or enhancing water quality and riparian conditions of lakes?

Lake monitoring on the Forest in 2011 included monitoring of key chemical and biological properties of Waldo Lake. In addition, high use recreation areas on several reservoirs on the Forest were monitored to determine if high concentrations of potentially toxic blue-green algae were present and a potential public health risk.

Waldo Lake receives the highest disk reading indicating extremely water clarity.

The Willamette National Forest contracted with Cascade Research Group to perform two monitoring trips to Waldo Lake in 2011 as part of the long-term monitoring program for the lake. Chemical and biological samples and field data were collected on August 21st and October 8th. The highest Secchi disk reading (a measure of water clarity) was reported to be 44.0 meters on October 8th indicating an extremely high level of water clarity. In addition, under an agreement between the Willamette National Forest and Portland State University (PSU), water temperature data was collected in Waldo Lake from stationary instruments that recorded temperatures at various depths at one location on Waldo Lake. In addition instruments deployed by Forest Service personnel and PSU continued to monitor changes in lake level throughout the year. This information will be used by PSU to develop and calibrate a water quality and hydrodynamic model for the lake. PSU also began field and laboratory studies to determine the rate of primary production found in the benthic zone of the lake. Results of this study are expected to be available late in 2012.

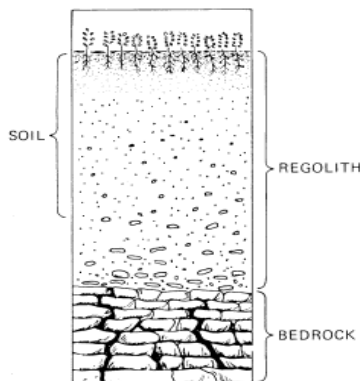
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Weekly surveillance monitoring visits were made primarily to developed recreation sites on water bodies that are known to have had blooms of potentially toxic blue-green algae (cyanobacteria) in the past. Public health advisories are issued by the Oregon Health Authority (OHA) when reported concentrations of potentially toxic blue-green algae are above health based thresholds. Throughout the summer season visits were made to approximately 25 locations on Detroit, Cougar, Blue River, Hills Creek, and Lookout Point Reservoirs. Trailheads, swimming areas, and boat ramps were posted with educational information about the health hazards of toxic blue-green algae and how to identify conditions that may be unhealthy for water contact recreation. An analysis report on a water sample collected at Cougar Reservoir by the Eugene Water and Electric Board and the Forest Service indicated the concentration of potentially toxic blue-green algae was above the OHA threshold for the protection of public health. The OHA issued a health advisory for Cougar Reservoir on June 14th. The advisory was lifted on October 5th and was in effect for a total of 35 days.

Forest Service personnel will continue to work cooperatively with other state and federal agencies to protect human health with regard to toxic algal blooms occurring on National Forest lands.

Soil Productivity

Monitoring Questions 34: Soil Productivity



Are Standard and Guidelines effective in maintaining soil condition and conditions for nutrient cycling? Are the Forest Plan predictions of mass movement valid?

Forest Plan Standards and Guidelines used to protect soil productivity are focused on limiting the extent of compaction and displacement related to the use of ground-based equipment on forest soils, and survey of soil effects from prescribed fire. Soil monitoring data summarized in this report will be from October 1, 2010 to September 30,

2011.

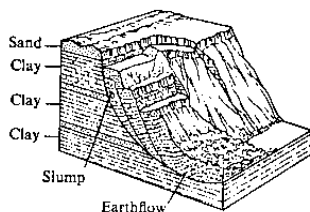
The Forest Plan requires that no more than 20% of an area harvested by ground-based machines should be impacted by roads, landings and skid trails on a given harvest unit. Post-sale reconnaissance and transect monitoring accomplished by the Forest Geologist on units of the Cascades Thin, Lava Thin and Stinger Timber Sales in late-2010 and 2011 revealed that Best Management Practices (BMPs) were being used properly to protect soil productivity in ground-based logging locations. BMPs included limiting ground-based machines to slopes less than 30%, using properly designated skid trails and reuse of old skid trails to minimize extent of effects, conducting ground-based operations when soils are not too wet, and placing logging slash on skid trails to minimize ground pressure.

Ground disturbance is monitored walking field transects and measuring area disturbed. Standards are being met.

Monitoring included walking several field transects totaling an estimated 5,800 feet in 5 different treatment units to determine the extent of skid trail impact. On these transects, a shovel or probe is pushed into the soil at regular intervals to test compaction. Results ranged from 6 to 24% (average of 18%) of surveyed ground-based logging areas having skid trails and landings, predominately within, and usually well below the Forest Plan standard of 20%. In the case where compaction exceeded the 20% threshold, the Forest Geologist recommended sub-soiling of compacted skid trails which decreased post-logging compaction by at least 10% of the area to bring soil back within Forest Plan Standards and Guidelines.

The Forest Geologist also conducted post-prescribed fire monitoring of soils after an under burn in the French Bug Timber Sale. Forest Plan Standards and Guidelines state that severely burned areas, evidenced by duff removal and soil discoloration, should not exceed 10% of an activity area and the Forest Plan sets out standards for duff retention based on vegetation and soil types. On French Bug Timber Sale unit 27, duff retention standards were 30-50%. Transects conducted in this 41-acre unit showed duff retention averaging 40% after under burning and included several areas that were unburned, indicating a “cool” mosaic burn. This sample of post-burn soil reconnaissance from the French Bug Timber Sale showed that in 2011, careful prescribed fire after vegetation treatments was meeting or exceeding Forest Plan standards.

In 2011, the Forest Geologist also documented visits to the Birdie, BT-3, Andy, Kinkoe Salvage and Cascade Thin timber sales to consult on harvest operation effects to soil and proper unit layout. Consultation at these sites included whether designated logging systems were appropriately protecting soils, whether ground-based operations could resume after wet weather, discussion of proper road drainage as part of a haul route, and whether or not sub-soiling of skid trails had been properly accomplished. In each case, Timber Sale administrators asked specialists to come in and evaluate operations to make sure that Forest Plan Standards and Guidelines were being met and in each case, the Forest Geologist approved or adjusted operations or prescribed BMPs to assure standards would be met.



Monitoring Questions 32: Water Mass Movement

Are Standard and Guidelines effective in managing mass movements to meet Forest goals?

The Willamette National Forest includes land types that are naturally prone to mass movement. Where land management activities have occurred in these areas, ongoing monitoring is being done either visually or through electronic and/or mechanical instrumentation. There are at least 9 active sites on

the Forest that are being monitored, and the majority of these sites are on the north end of the Forest in the North and South Santiam River sub-basins.

Timber sales are carefully monitored for soil stability.

In late-2010 and 2011, the Forest Geologist gave input on three stability issues on the north end of the Forest. The first was on the Halls Thin Timber Sale, where an unstable area in unit 21 was re-checked to make sure that the extent of protection was adequate for a potentially unstable area flagged out during unit layout, and the original protection measures were found to be adequate. Secondly, a location on the Canyon Creek Road known as the Canyon Creek Wall was cleared of fallen rocks and inspected to assure safe passage by Forest Service and private land managers. Thirdly, increased turbidity in Short Creek, a tributary to the Breitenbush River, was investigated by the Forest Geologist during winter, but no natural or road-caused failure was found to explain the temporary turbidity spike.

Willamette National Forest personnel will continue to monitor on-going stability concerns and will work cooperatively with other land management agencies and companies to address specific needs.

Monitoring in 2010:

A reconnaissance investigation of the entire unstable area was first conducted by the Forest Geologist in the spring of 1994 as part of the Willamette National Forest South Fork Pilot Watershed Analysis. On November 29, 2010, I conducted another intensive field review of the entire slide mass as part of the ongoing environmental analysis for the Green Mountain project planning area. The Green Mountain project intends to look at thinning of older managed stands and naturally fire – regenerated older stands. At this point, no potential Green Mountain stand would affect the Boone Creek Slide.

Some observations and conclusions:

- 1) The drainage improvements implemented about 10 years ago seem to be stabilizing (or reducing the rate of movement within) the toe area of the slide between the road and the reservoir. The soils in this toe area appear to have dried out with the containment of the stream flow on the north side of slide area. Road settlement seems to have stabilized, and more recently leaning trees and tension cracks are not evident below the road way and extending to the lake shore.
- 2) The storm events of 1996/1997 and subsequent events through about 2000 or so caused additional small debris chute type soil failures on the slide scarp on the northeast corner of the slide near its highest point. The debris chute scar evident on the 1990 photo (8-1-90, 1190-28) has partially vegetated with brush and conifer. Newer bare soil scarps are

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now evident to the east of this failure. These slides form short debris chutes that piled up on the slump benches beneath.

3) The slide mass is generally saturated throughout. Small areas of ponded water are evident at the ground surface in numerous low spots, in root wad depressions from over turned trees, and in the numerous small springs that pop out in various locations.

4) Although this is a most subjective observation, it appears that the slide mass above the road has not slowed to any degree, but it some ways appears to be moving at rates that equal or exceed those apparent in 1994. More leaning and swayed trees seem evident, as well as a few more tension cracks.

In summary, the Boone Creek Slide is a semi-active to active earthflow that is crossed near its toe by Road 19. Movement rates are such that a paved road surface is broken relatively quickly. Consequently, the surfacing on the road through this section is and has been gravel for many years. Geotechnical work at the slide in the last twenty years or so has slowed movement at the road and begun to stabilize the toe area of the slide below the road. The stabilization work, primarily in the form of drainage control, has helped to better protect the road bed and drainage crossings. There is no indication that the larger part of the slide, uphill of the road, is beginning to stabilize. Consequently, the current status quo is likely to exist for some time to come.

Air Quality



Monitoring Question 35: Air Quality

Are management activities that affect air quality in compliance with state and federal air quality regulations?

Legal Basis and Purpose of the Willamette National Forest Air Program

Under provisions of the federal Clean Air Act, the Wilderness Act, the Organic Act, and the Regional Haze Rule, the Forest Service has responsibilities and authorities to mitigate potential air quality impacts on all national forest system lands.

Forest Service policy assigns Regional Foresters the responsibility to respond to States or the Federal EPA on issues or actions involving the Clean Air Act. Forest Supervisors are delegated the responsibility to take action to identify impacts and to protect National Forest System lands from adverse impacts which may result from air pollution (including atmospheric deposition).

The region has an extensive air quality monitoring program using of which the Willamette National Forest is a key part of that program. An updated report can be found in the Forest Plan Monitoring Report, and a new report is expected next year to bring the values up to date. Last year reported an overall steady state to slight improvement in air quality. The Willamette has been reporting since 1979,



New Monitoring Question: Climate Change

What evidence do we have of climate change and what ecological effects have been documented so far?

This new monitoring question was reported for the in 2010. The information is repeated again with new information expected next year. The frequency of reporting on this very important subject will begin to take form.

Why Monitor Climate Change?

Anthropogenic emissions of heat-trapping gases like carbon dioxide, methane, and nitrous oxides are changing the earth's climate. Regional analyses for the Pacific Northwest predict warming temperatures, smaller snow packs, earlier snowmelt, summer time drought, higher stream temperatures, higher energy storms, and increased coastal flooding. There is less agreement about long term trends in precipitation; some models predict increases, others decreases. Understanding the changes that are occurring helps Forest managers plan adaptive actions to ameliorate adverse effects to the condition of natural resources and biological diversity.

Background: The Willamette NF biomonitoring network is designed to track the status and trends of climate and air quality as indicated by shifts in the community composition of epiphytic lichens and by changes in pollutant levels in lichens following FIA/Forest Health Monitoring and R6 standard protocols for the lichen indicator. Specific air quality responses tracked are the atmospheric deposition and ecological effects of eutrophying pollutants (nitrogen, phosphorus), acidifying pollutants (nitrogen, sulfur) and toxic metals (mercury, lead, cadmium, chromium, copper, nickel, vanadium, and zinc). Note: Round 1 of monitoring was 1993-2002; Round 2 was 2003-2012. Baseline goals were achieved when the desired monitoring density of 1 plot per 20,000 acres is achieved; trends goals were achieved when Round 1 plots were revisited in Round 2 at the desired monitoring density.

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Plots expanded in 2011 with baseline data for three additional wilderness areas.

Actions Taken In 2011: Plots were added to the Menagerie and Middle Santiam Wilderness Areas to achieve target monitoring density. Network status was assessed--the following table summarizes the status and trends data available for each Wilderness by the end of FY2011.

Diamond Peak: Conducted an inventory for a priority sensitive receptor (lichens) at 100% of target plot density; established preliminary baselines for two priority sensitive receptors (nutrient/metal concentrations in lichens and baseline scores for lichen communities along regional eutrophication and climate gradients); monitored a priority sensitive receptor for trends from baseline (gathered lichen trends data at 100% target plot density).

Menagerie: Conducted an inventory for a priority sensitive receptor (lichens) at 100% of target plot density; established preliminary baselines for two priority sensitive receptors (nutrient/metal concentrations in lichens and baseline scores for lichen communities along regional eutrophication and climate gradients); monitored a priority sensitive receptor for trends from baseline (gathered lichen trends data at 0% target plot density).

Middle Santiam: Conducted an inventory for a priority sensitive receptor (lichens) at 100% of target plot density; established preliminary baselines for two priority sensitive receptors (nutrient/metal concentrations in lichens and baseline scores for lichen communities along regional eutrophication and climate gradients); monitored a priority sensitive receptor for trends from baseline (gathered lichen trends data at 0% target plot density).

Mt Jefferson: Conducted an inventory for a priority sensitive receptor (lichens) at 100% of target plot density; established preliminary baselines for two priority sensitive receptors (nutrient/metal concentrations in lichens and baseline scores for lichen communities along regional eutrophication and climate gradients); monitored a priority sensitive receptor for trends from baseline (gathered lichen trends data at 100% target plot density).

Mt Washington: Conducted an inventory for a priority sensitive receptor (lichens) at 100% of target plot density; established preliminary baselines for two priority sensitive receptors (nutrient/metal concentrations in lichens and baseline scores for lichen communities along regional eutrophication and climate gradients); monitored a priority sensitive receptor for trends from baseline (gathered lichen trends data at 37% target plot density).

Opal Creek: Conducted an inventory for a priority sensitive receptor (lichens) at 100% of target plot density; established preliminary baselines for two priority sensitive receptors (nutrient/metal concentrations in lichens and baseline scores for lichen communities along regional eutrophication and climate gradients); monitored a priority sensitive receptor for trends from baseline (gathered lichen trends data at 0% target plot density).

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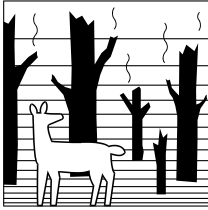
Three Sisters: Conducted an inventory for a priority sensitive receptor (lichens) at 100% of target plot density; established preliminary baselines for two priority sensitive receptors (nutrient/metal concentrations in lichens and baseline scores for lichen communities along regional eutrophication and climate gradients); monitored a priority sensitive receptor for trends from baseline (gathered lichen trends data at 100% target plot density).

Waldo Lake: Conducted an inventory for a priority sensitive receptor (lichens) at 100% of target plot density; established preliminary baselines for two priority sensitive receptors (nutrient/metal concentrations in lichens and baseline scores for lichen communities along regional eutrophication and climate gradients); monitored a priority sensitive receptor for trends from baseline (gathered lichen trends data at 100% target plot density).

Wilderness Area	Wilderness Size (acres)	Desired # plots*	Number of plots				% Desired Plots w/		
			Round 1	Round 2	Total	w/ trends data	Baseline Data	Trends Data	Data available
Diamond Peak	52,611	3	7	5	8	4	100	100	Trends
Menagerie	5,084	1	0	1	1	0	100	0	Baseline
Middle Santiam	8,900	1	0	1	2	0	100	0	Baseline
Mt Jefferson	104,523	5	15	9	16	8	100	100	Trends
Mt Washington	54,278	3	6	2	7	1	100	37	Trends
Opal Creek	20,454	1	1	1	2	0	100	0	Baseline
Three Sisters	281,190	14	34	19	37	16	100	100	Trends
Waldo Lake	36,572	2	6	3	9	3	100	100	Trends

In the Forest Service's Pacific Northwest Region, the Deschutes and Willamette National Forests are exploring how an ecosystem service approach can serve evolving forest management needs and priorities. Forest staff are experimenting with how ecosystem service outcomes can help frame proposed projects and articulate the rationale for management decision-making. While the Forest Service's reporting systems tend to focus on outputs (acres treated to reduce wildfire risk, etc., the agency and our partners are also interested in new ways of expressing holistic outcomes for ecosystem services. Emphasizing forest management from an ecosystem services perspective also has the potential to strengthen relationships with the public by expressing management objectives in terms of these beneficial outcomes. Collaboratively managing mutually-valued services can sustain resources over time.

Fire



Monitoring Question 36: Fire protection

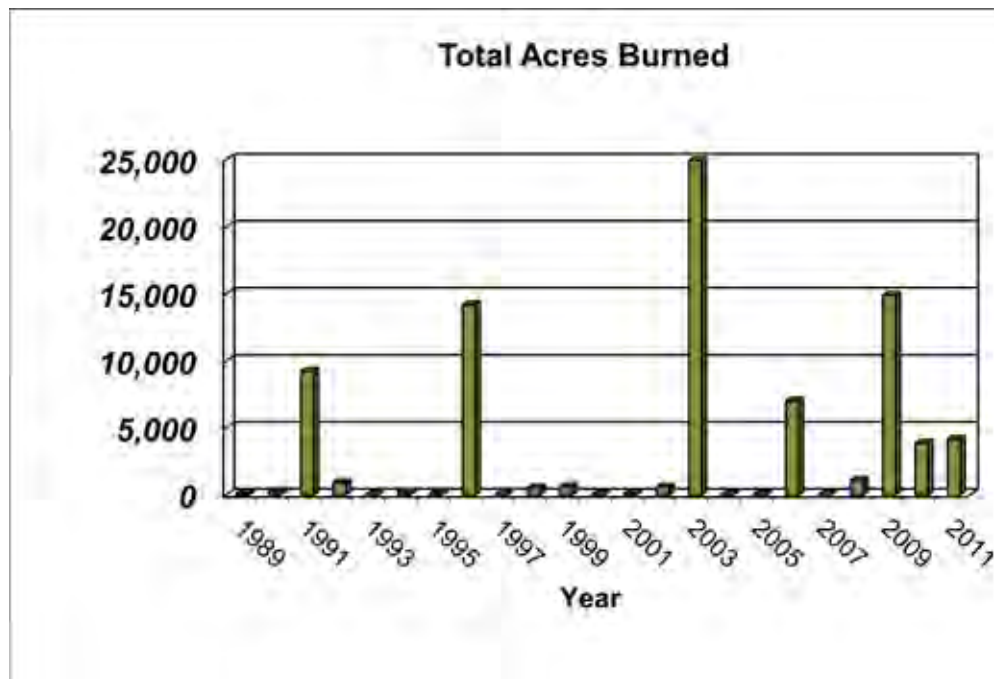
Are the acres burned by wildfire within the levels considered in the plan?

Eighty one fires burned 53 in FY11. Fifty one of those fires were in non-wilderness areas. Thirty one reported fires burned 4,118 acres in the wilderness in FY11. Fire occurrences in 2011 were 30% above normal, based on a 20 year average, with 81 starts. The Forest had one large fires (over 300 acres) in Mount Washington Wilderness. The Shadow Lake Fire started on the Deschutes National Forest and burned 4,016 acres on the Willamette side of the wilderness.

Fires 30% above normal based on a 20-year average. The 2011 fire season ended in early October when the Willamette National Forest received significant rainfall.

As illustrated by the graph below, this fiscal year continues to depict the high degree of variability among fire patterns across the Forest.

A retrospective view of fires in the last 11 years since the Forest Plan has been



implemented reveals that over 84,793 acres have burned in both wilderness and non-

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wilderness. This exceeds the threshold expected by more than twice. Fires, when they do occur also exceed in size considerably.



Monitoring Question 37: Fuels treatment

Were fuel loading/ distribution standards met on affected activity areas?

Fuel treatments are completed in conjunction with timber sales.

Information sources utilized for Forest fuel monitoring was the Willamette National Forest 2012 FACTS. The Forest completed 2,176 acres of fuel treatment in FY2011 or 100% of the assigned target for fuel treatment. The threshold of variability was not exceeded in fiscal year 2011 and the three years cumulative average (2,001 acres) of fuel treatments has not been exceeded. The acres treated were a direct result of timber harvest activities on the forest. An additional 554 acres of secondary treatments also occurred in FY2011, including 430 acres of treatment in the Wildland Urban Interface.

Biological Resources

The Forest Standards and Guidelines provide direction to enable the Forest to meet the goals of protecting and improving species populations and their habitat. Threatened, endangered, and sensitive species as well as indicator species are monitored for species viability. Below is a summary of FY11 monitoring questions designed to assist the Forest Supervisor in determining the effectiveness of the Forest Plan Standards and Guidelines in meeting the Forest's goals.

CONTENTS

Summary Results

Fish Populations

Habitat Diversity

Wildlife

Plants

If the reader is interested in more information than what is provided in the following summary they may request the documents listed under "Supplemental Information".

BIOLOGICAL RESOURCES SUMMARY FINDINGS

Biological Resource	Monitoring Question	Monitoring Activities	Monitoring Results	Supplemental Information
<i>Fish Population</i>	13 - Fish Populations	River monitoring, field observations	Results OK	Fish FY11 Monitoring Report
<i>Habitat Diversity</i>	14 - Aquatic Habitat	Field evaluations	Results OK	Fish FY11 Monitoring Report
	28, 31 - Riparian & Wetlands	Field evaluations	Results OK	Wetlands Monitoring Report FY11
	40 - Biological Diversity	Field surveys and Spotted Owl demographic study	Results OK	Biological Diversity FY11 Monitoring Report
<i>Wildlife</i>	15 - Bald Eagle	District surveys	Results OK	Wildlife FY11 monitoring report
	18 - Peregrine Falcon	District surveys	Results OK	
	19 - Primary Cavity Excavators	District surveys	Results OK	
	20 - Marten & Pileated Woodpecker	Snag creation and monitoring	Results OK	
	21 - Deer & Elk	Hunter statistics and annual census counts by ODFW	Population stable to declining	
<i>Plants</i>	16 - TE&S Plants, Noxious Weeds, Native Species	Forest and district records and field activities	Results OK	Botany FY11 monitoring report

Fish Populations



Monitoring Questions 13: Fish Populations

Are the predictions of maintaining or improving Management Indicator Species and Threatened Species of fish valid?

The forest tracks population and habitat changes for spring Chinook, winter steelhead, Oregon chub, and bull trout. The three major river systems on the forest are the Middle Fork Willamette River, the McKenzie River, and the Santiam River.

MIDDLE FORK WILLAMETTE RIVER

Spring Chinook: In 2011 pre-spawned adult salmon were once again released in the Paddy's Valley area in the Middle Fork Willamette River. Adult salmon were placed in the system after it was determined the man-made redds from previous years were unsuccessful in producing young of the year. During these years we observed very few juvenile salmon in the Middle Fork Willamette River. In late fall 2011, we released approx. 400 adult male, 400 adult female, and 341 jack Chinook salmon. We observed 32 redds during the only survey completed for the area. This survey was completed late in the year and we suspect many redds were obstructed or already covered by organic matter and fallen leaves. In addition, we surveyed less than half of the known available spawning habitat in the area. Therefore, we surmise there were many more spring Chinook redds in the Paddy's Valley area than we recorded.

Forest Service and ODFW cooperate on bull trout and salmon projects. **Bull trout habitat:** In 2011 we observed approximately 20 adult bull trout returning to spawning areas of the Middle Fork Willamette River. Eleven bull trout redds were documented in tributary streams and an additional three redds were observed in the Middle Fork Willamette River. Redds in the Middle Fork Willamette were not confirmed as "positive" bull trout redds. Overall redd numbers decreased over last years estimate and the adult spawning population continues to stagnate at approximately 20-25 fish. The Forest Service works in conjunction with ODFW on nearly all bull trout and salmon related research projects.

In 2011 we monitored all previous projects and determined bull trout are still present in all release areas and all age classes are present in the Middle Fork Willamette River and Hills Creek Reservoir. Bull trout are using the habitat we have constructed and enhanced. Monitoring techniques included night snorkel surveys, various trapping projects and angling. Larger bull trout are still implanted with a recorded tag (PIT tag) so biologists can determine seasonal migration patterns and location of spawning.

Final Middle Fork Willamette Watershed restoration project will be finished this this year completed a 5-year plan.

We are preparing to place 1100 logs in the Middle Fork Willamette River and surrounding areas to create or enhance four more miles of habitat as part of the 5 Year Action Plan developed for the Middle Fork Willamette Watershed. Once this is completed we feel the bulk of stream restoration and enhancement in the watershed will be completed. Also in 2011, we continued to monitor the recently completed Indigo Springs Bull Trout Spawning Channel Project. This project removed an impassable barrier for bull trout to restore connectivity to some of the most important habitat on the forest and provide an additional 400 feet of engineered channel for spawning. This project was completed with major funding from the USFWS, OWEB, and others and is a remarkable example of the quality of projects we have completed for bull trout recovery in the watershed.

Bull trout populations: The Middle Fork Willamette River bull trout reintroduction, monitoring, and recovery program has concluded its fourteenth year. The program began in 1997, and to date has transferred over 12,000 fry and juvenile bull trout from Anderson Creek, McKenzie River Ranger District to the Upper Middle Fork Willamette River (UMFWR), upstream of Hills Creek Reservoir. Since 1997, there has been a steady, but slow increase in the UMFWR bull trout population, with natural reproduction first occurring in 2004. However, this year's data does not reflect the same slow upward trend. In 2011, we observed bull trout habitat expansion and population persistence. However, these observations do not lead us to believe that the population is either failing or becoming increasingly stable.

Bull trout populations remain stable.

The population appears to be at least maintaining itself and is expected to maintain that trend as new age classes continue to mature and natural reproduction continues. Juveniles are still present in all release areas and we now observe natural spawning at several sites each year. The Bull Trout Working Group and US Fish and Wildlife Service agreed to rear bull trout fry in the McKenzie Hatchery again this year. These fish will be transported to the Middle Fork Willamette and released in the fall of 2012.

High use spawning areas in the UMFWR basin were examined for bull trout presence by minnow trapping. Traps were set in Chuckle Springs and Indigo Springs. Minnow traps were baited with salmon eggs and soaked for 20 – 24 hours on average. Meristic data was taken on all fish caught and untagged juveniles >115 mm were PIT tagged before release.

Snorkel surveys, redd counts, trapping, and PIT antenna interrogation was used to estimate the number of adults spawning in the UMFWR. Tagged adults were tracked at PIT tag antenna sites. A five foot rotary screw trap and channel spanning weir was installed downstream of spawning sites in an effort to trap all post-spawned adults returning to Hills Creek Reservoir. Captured bull trout were scanned for PIT tags, meristic data was taken, and fish were released downstream of the trap. All brook trout

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were recorded and removed from the population, with the exception of one fish that was tagged and released. This brook trout was tagged and released to determine if it was attempting to spawn with other bull trout in the area and or to follow its movements in subsequent years during the bull trout migration.

Redd counts were conducted weekly in the UMFWR from Sacandaga Campground (RM 256) upstream to the Tumblebug Creek confluence (RM 261) and other spawning tributaries from August 22 to October 12. Redd counts in the UMFWR included bull trout and Chinook salmon redds since both species are present and spawning grounds overlap. All redds in Iko, Indigo and Chuckle springs were assumed to be constructed by bull trout, and bull trout redds in the UMFWR were confirmed only if fish were observed on the redd.

Upper Middle Fork Willamette River continues to receive intense monitoring of bull trout.

In 2011, we accomplished our monitoring goals by gaining additional information to meet study objectives established for bull trout monitoring in the UMFWR. We met these objectives by estimating abundance and distribution of spawning adults. We continue to work toward completing objectives for estimating population and distribution of naturally occurring juvenile bull trout and continue to monitor the survival and life history of hatchery reared juveniles released into the UMFWR and tributaries.

Adult abundance decreased in 2011 from 23 known fish in 2010 to 17. Adults were present in several tributaries but redds were only observed in Iko Springs, Chuckle Springs, and upstream of Indigo Springs in the UMFWR. Redd counts were unconfirmed in the mainstem UMFWR due largely to Chinook salmon spawning presence and our research suggests that Iko Springs continues to be the only area where consistent bull trout spawning occurs.

Naturally produced fry and juvenile bull trout were observed in Iko Springs. Iko Springs night snorkel surveys suggest that bull trout rear in spring-fed tributaries up to a length of 200 mm. However, smaller juvenile bull trout were captured in the screw trap in the UMFWR. Study objectives are focused primarily on juvenile and adult life stages while sub-adult activities are largely unknown, due to the fact that sub-adults spend considerable time (years) in the reservoir. Unknown factors or conditions within Hills Creek Reservoir may adversely affect sub-adults during their time in the reservoir. Detrimental conditions such as fishing pressure, blue-green algae presence with associated oxygen level deprivations, reservoir and temperature fluctuations that degrade water quality and foraging or habitat limitations should be considered. Hills Creek Reservoir remains an unknown factor in the status of UMFWR bull trout success and requires further research.

Swift and Bear creeks continue to be the main recipient for trans-located juveniles, but in 2011 bull trout were also released in Indigo Springs. The impact of hatchery reared

juveniles to the overall population remains in question and more research is needed to determine the success of the hatchery rearing program.

MCKENZIE RIVER

Spring Chinook:- Restoration efforts by partners in the sub-basin focus on factors found limiting to spring Chinook production, and those projects range from historic temperature regime restoration and passage at Cougar Dam (Cougar Temperature Control Project and fish passage facilities completed in 2010 by USACE) to restoration of aquatic habitat (McKenzie River and South Fork McKenzie River by USFS). Of the effects that are believed substantial in the sub-basin, the long term presence of the McKenzie River Hatchery program is thought to be significant. Changes in spring Chinook stock management by ODFW toward natural production, especially above dams, will be monitored by USACE and ODFW for effectiveness in future years. Changes in life history due to the altered thermal regime or changes in the juvenile migratory corridor and downstream rearing habitat are thought to be significant in the lower sub-basin (non-Forest Service land) but could not be estimated due to lack of information.

Deeper pools result in increased spawning areas with whole trees being added to the streams.

In 2011 the McKenzie River Ranger District implemented Phase 2 of a 3 phase project to add large woody material in the form of whole trees to 4 side channels in the McKenzie River. Phase 1 of the project was implemented in 2010 and monitoring has shown that large wood has created deeper pools in the side channels, and increased spawning area.

During calendar year 2010 in one side channel we observed 8 redds before project implementation. In 2011, after project implementation, we observed 34 redds in the same side channel. This is attributable to the increased amount of spawning habitat that was created due to the large wood project.

Willamette Basin dams USACOE operations must now address a 2008 Biological Opinion. Of high priority are issues of habitat connectivity above dams and of highest priority within the McKenzie sub-basin is reconnecting the South Fork McKenzie River. The USACE is has completed a “trap and haul” facility at Cougar Dam and is transporting spring Chinook salmon (and other native fish) to upstream habitats. In 2011, ODFW released adult spring Chinook salmon from the McKenzie River Hatchery upstream of Cougar Dam in the South Fork McKenzie River as well as fish caught in the trap. The goal of these releases is to restore marine derived nutrients to the South Fork McKenzie watershed upstream of the dam, and so that the progeny of spring Chinook provide a prey base for bull trout isolated upstream of the dam.

In 2011, members of the McKenzie River Ranger District, ODFW, NMFS, and the USACE reviewed current release sites for adult spring Chinook salmon, and potential new

release sites upstream of Cougar Reservoir. In 2012 we expect to select sites and prepare any needed environmental documentation.

Phase 2 of a multi-year project was completed in 2011 in the McKenzie River that will improve conditions for spring Chinook and bull trout.

Bull trout habitat: In 2011, the USFS completed Phase 2 of a project to restore large woody material to 3 miles of side channels in the “middle” McKenzie River corridor. Phase 1 consisted of pulling over 22 stream-adjacent trees into the 2 side channels to provide key pieces on which to build log accumulations via helicopter (Phase 3). In Phase 2 we pulled over 15 trees into 4 additional side channels. This project is expected to increase rearing and foraging habitat and prey base for bull trout.

Bull trout populations : Redd counts in 2011 there was an increase by 10 redds in the mainstem McKenzie River sub-populations. Some evidence shows that illegal harvest, natural predation and passage issues at culverts may have played a role in the decline. Redd counts in 2011 for the South Fork McKenzie River sub-population, declined by 9 redds but overall the population trends are favorable. Habitat restoration projects were conducted in 1996-1998 and 2007-2009 in the South Fork McKenzie River and Roaring River and may be contributing to increasing redd counts. Trap and haul facilities at Cougar Dam were completed in 2010 and will benefit the South Fork McKenzie River sub-population. A fish ladder is planned at Trail Bridge Dam by the Eugene Water & Electric Board (EWEB) and will be completed within 6 years of receiving a new hydropower license. EWEB expects to receive their license in 2012.

SANTIAM RIVER

Spring Chinook: There has been no monitoring in the North Santiam River, Little North Santiam River, South Santiam River or the Calapooia River that would indicate whether smolt numbers are increasing, decreasing or are stable. Smolt trapping began in both the Breitenbush River and the North Santiam River, in 2010.

North Santiam smolt population struggle.

The North Santiam trap operated from January through December 2011 and collected 4294 subyearlings and 29 yearling spring Chinook salmon. The Breitenbush River trap was operated from February through December 2011. 3 yearlings and 1050 subyearlings were collected. An additional trap was installed below Detroit Dam to monitor out-migrants from the reservoir and survival rates. Overall the survival rate through the dam is very poor. Of 168 chinook captured only 63 were alive. There appears to be a direct correlation between size and mortality rate. The larger the smolt, the less likely it is to survive. In the North Santiam River, hatchery supplementation and natural spawning of Chinook moved around Big Cliff and Detroit Dams but at a much lower rate. Due to construction of the new Minto Fish collection site the 2011 collection occurred at Bennet Dam, located 25 miles lower in the watershed. Only 200 individuals

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were transported above the dams this year and the pre-spawn mortality rate of those fish was very high.

Monitoring also occurred within Detroit reservoir. Live traps were located at various locations throughout the reservoir. The population of non-native pumpkinseed is expanding at a phenomenal rate.

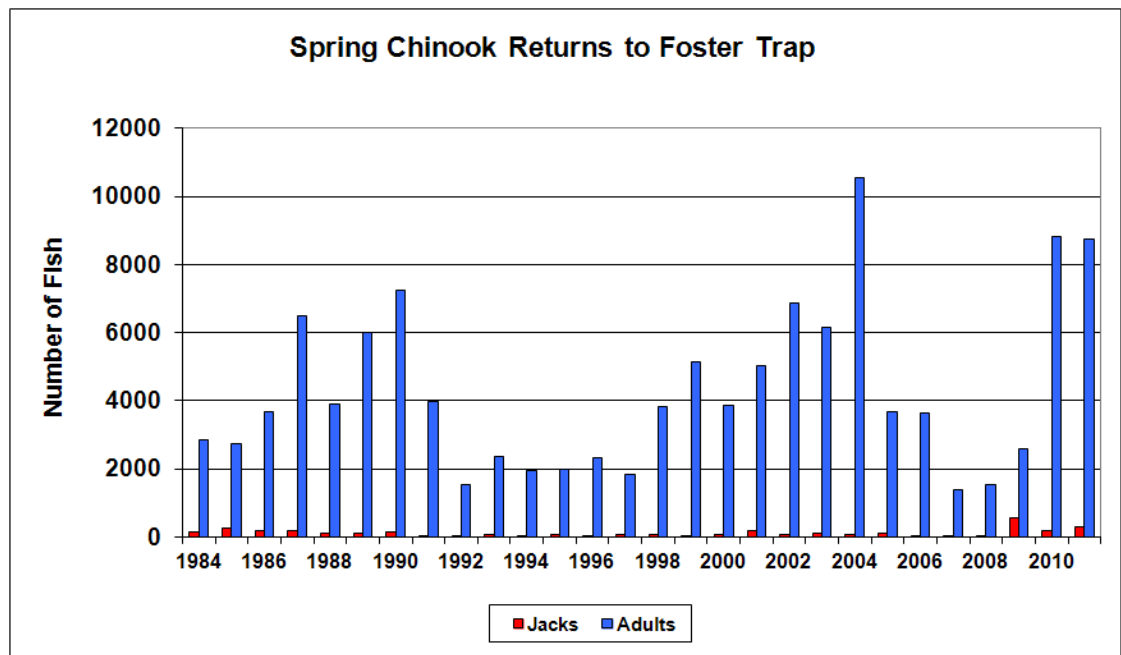
Construction of the new collection and sorting facility at Minto Park is currently on schedule, completion anticipated 2013. This facility will dramatically improve the ability of

Pre-spawn adult salmon are transport past barriers to aid in spawning.

ODFW personnel to capture and transport adult salmon, hopefully reducing the high incidence of pre-spawn mortality of out-planted adults in both the Breitenbush and North Santiam Rivers. The USGS is installing additional acoustic sensors at various locations in Detroit Reservoir to monitor juvenile Chinook salmon implanted with transponder tags. This projects goal is to determine migration routes and depths used by juvenile salmon through the reservoir pool. The Army Corps continues to work with ODFW to improve stream temperatures below the reservoirs to improve fish habitat. Stream temperature models were developed by the Oregon Department of Environmental Quality to assist in this project. Utilizing historical records prior to dam construction as well as data collected from monitoring stations above the reservoirs the DEQ has produced a water temperature seasonal profile.

ODFW is still trying to coordinate plans to identify a way to monitor smolts on the South Santiam River. The chart below shows returning adult spring Chinook in the South Santiam River since 1984.

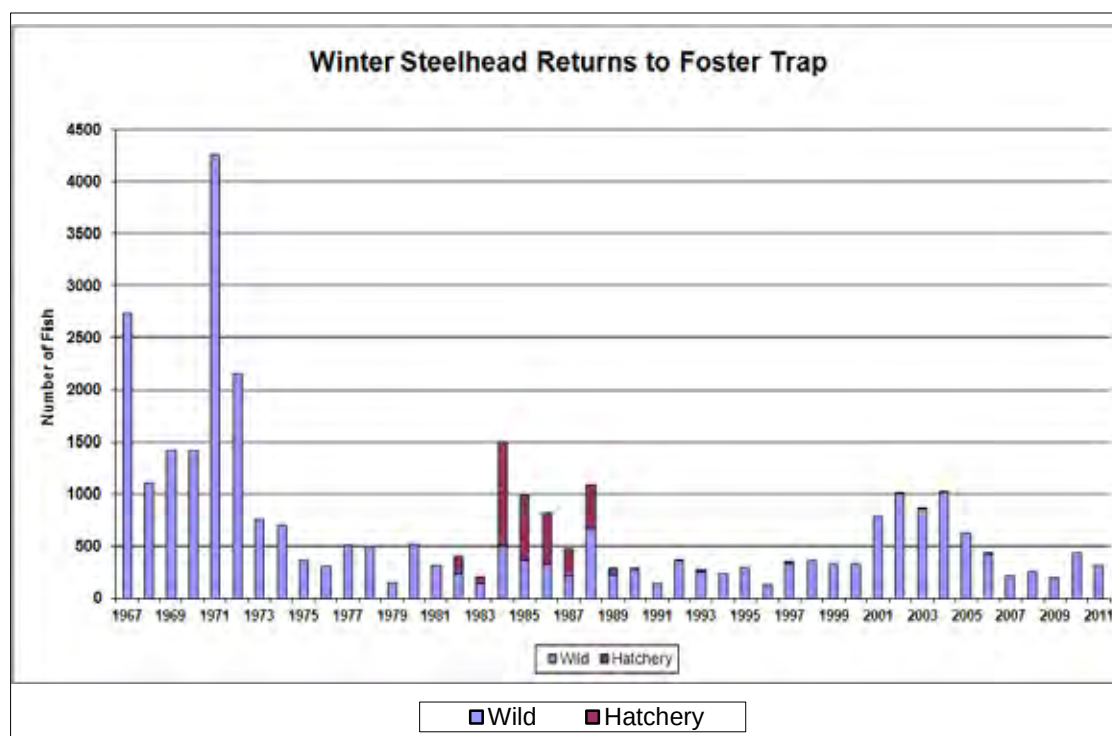
Upper Willamette Winter Steelhead (UWS): UWS have been extirpated in the North Santiam River above Big Cliff Dam. Steelhead that reach the Minto (this year Bennet) trap, operated by ODFW, are passed around the collection facility and spawn naturally in the



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North Santiam River below Big Cliff Dam. In the Willamette Basin Biological Opinion winter steelhead may be moved around these dams in the North Santiam River. Downstream smolt migration would be monitored by the ACOE and ODFW.

There may be an indication that winter steelhead smolt numbers in the South Santiam River may be fluctuating based on the variability of numbers of adults returning to the South Santiam River the last several years. Annual snorkel surveys for juvenile steelhead have been initiated on Moose Creek and over time the data collected from those surveys will increase our understanding of the population. The chart below shows returning adults of UWS in the South Santiam. UWS have been extirpated in the North Santiam River above Big Cliff Dam. Steelhead that reach the Minto trap, operated by ODFW, are passed around the collection facility and naturally in the North Santiam River below Big Cliff Dam. In the Willamette Basin Biological Opinion winter steelhead may be moved around these dams in the North Santiam River. Downstream smolt migration would be



monitored by the COE.

Bull trout: Bull trout have been extirpated above Detroit reservoir following the construction of the dams. Current sampling and survey efforts to determine feasibility of reintroduction have found Brook trout to be present in the headwaters of the North Santiam and near the Wilderness boundary on the Breitenbush.

OREGON CHUB

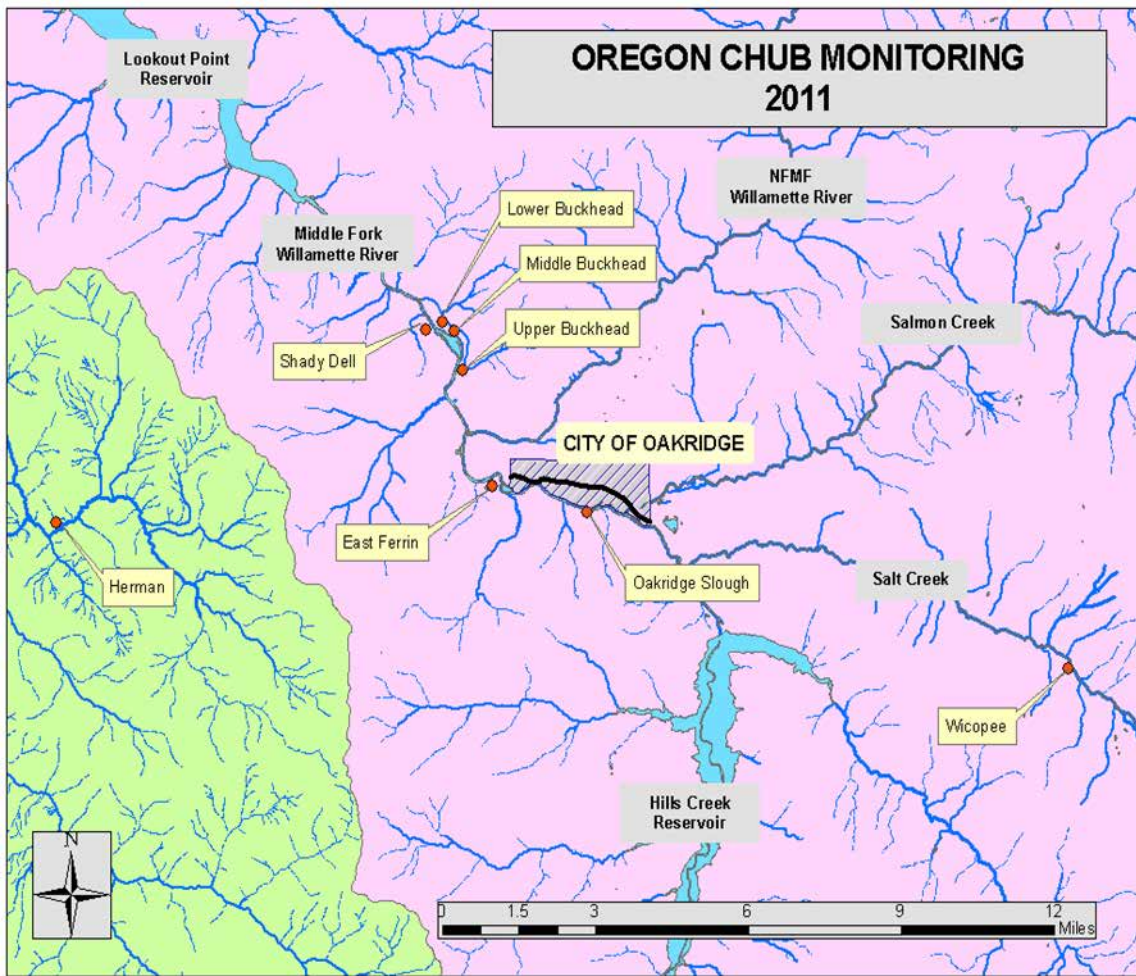
Oregon chub habitat areas on the National Forest are being maintained. The evidence of this finding is a stable trend in chub populations on the Forest.

In 2008, the Middle Fork District took over the responsibility of monitoring many Oregon chub populations on the District. There are several populations on the Willamette National Forest that currently meet Endangered Species Act down-listing criteria of greater than 500 fish with a stable or increasing trend of abundance for at least 5 years. These trends did not change in 2011. Also, in 2011, Oregon chub were down listed to threatened.

Oregon chub populations on the Forest moved from endangered to threatened.

The Oregon chub project is a District-wide monitoring effort to establish O. chub populations, employing sampling protocols developed by ODFW. Each year, the MFRD fisheries department monitors eight historically and currently occupied sites, located on National Forest lands (Figure 5). Seven of these habitats are found on the MFRD and one reintroduction site (Herman Pond), located within the Coast Fork Willamette sub-basin, on the Cottage Grove Ranger District.

During the summer of 2010, the MFRD fisheries department excavated a new pond at the Buckhead Wildlife Area, in hopes that this pond would provide new additional habitat for the struggling species.



1Figure. Oregon chub sites monitored by MFRD fisheries biologists in 2011.



Monitoring Questions 14: Riparian Aquatic Habitat and Streambank Stability

Are Standards and Guidelines for Water Quality and Riparian Areas effective in maintaining or enhancing stream conditions and aquatic habitat?

Stream survey data collected over the last 10 years indicates that in-stream habitat is being maintained/enhanced by Forest Plan S&G's. Stream habitat attributes such as instream large wood, large pools, and bank stability are generally improving. There are stream reaches in need of in-stream and/or riparian restoration. The Respect the River program has been implemented in the North and South Santiam watersheds to protect and restore riparian habitat. These areas are prioritized and restoration occurs as funding allows. The Respect the River program will expand across the Forest in 2012. See Monitoring Question 13 for more discussion on accomplishments and work planned for the future.



Monitoring Questions 28 & 31: Riparian Terrestrial Habitat and Wetlands

Are riparian Standards and Guidelines effective in meeting Forest Goals for terrestrial riparian resources including beneficial values of small wetlands?

Riparian areas are being protected.

No formal monitoring was conducted for riparian terrestrial habitat in FY11; however, riparian area protection and restoration was completed on the north end of the forest with implementation of the Respect the River program. In addition, Forest Supervisor monitoring trips focus on new project including those that may affect riparian areas. Monitoring completed in FY11, showed overall physical protection of channels appeared to be successful. Providing flexibility in reserve boundaries to meet site-specific conditions such as aspect, topography, and vegetation would further enhance protection.

Protection given through the NWFP for riparian and wetlands areas maintains the quality and diversity of these areas beyond the Forests' original expectations. Add to that Respect the River, which is managing recreation impacts, protecting riparian habitat and actively restoring riparian areas, and riparian areas on the forest are being moved towards restoration.

Wildlife



Monitoring Questions 15: Bald Eagle

Are the bald eagle recovery objectives being met on the Forest?

Yes. In 2007 the bald eagle was removed from federal listing as threatened under the Endangered Species Act. Bald eagles are now being managed as a sensitive species on Forest Service lands in accordance with Regional guidance. Due to lack of funding and higher wildlife priority needs, bald eagle management plans have not been developed for most nest sites. However, all proposed activities that could affect bald eagles are addressed in project Biological Evaluations. Seasonal restrictions are applied around active nest sites when applicable. Ten nesting sites on the Forest were monitored for use in 2011. Three nests were documented producing a total of 3 nestlings to older than 4 weeks of age. The low production for eagles in 2011 is attributed to a prolonged winter and late spring. The number of individual bald eagle nesting territories known to produce young on the Willamette National Forest per 5-year period increased from 3 for the years 1985-89 to 8 for the years 1995-99 and has remained stable since then.



Monitoring Questions 18: Peregrine Falcon

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Are the objectives for peregrine falcon recovery being met on the Forest?

Yes. Recovery objectives have been met for peregrine falcons on the Forest. In August of 1999 the peregrine falcon was removed from the federal Threatened and Endangered species list (delisted). Peregrine falcons are now managed as a sensitive species on Forest Service land in accordance with Regional guidance.

Bald eagles continue to reproduce despite poor weather conditions. The U.S. Fish and Wildlife Service (USFWS) implemented a 13-year (2003-2015) nationwide plan to monitor nesting success of peregrine falcons after delisting. The Willamette NF has 28 known nesting sites. Seven of these nest sites are included in the 2003 National Monitoring Program and are monitored annually. Eight additional nest sites have been identified by Oregon Department of Fish and Wildlife for monitoring every 3 years with the next monitoring year being 2012. Other nest sites are monitored based on district needs and available funding. Late snowfall and weather hampered the monitoring effort in 2011 and is thought to also have negatively affected peregrine nesting success. Twelve sites were successfully monitored in 2011, including 5 national monitoring sites. Of the 12 sites monitored, 10 young were produced from 7 occupied sites for an average of 1.4 young per occupied site. Of the 5 national monitoring sites successfully monitored, only 1 site was occupied and it produced 2 young.

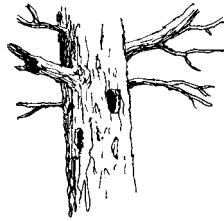
Due to lack of funding and higher wildlife priority needs, peregrine falcon management plans have not been developed for most nest sites. However, all proposed activities that could affect peregrine falcon are addressed in project Biological Evaluations. Seasonal restrictions are applied around active nest sites where needed, including seasonal restrictions on roads, trails, and area closures. When the Willamette Forest Plan started in 1990, there were no known peregrine falcon nests on the Forest. Today there are 28 documented nest sites, although not all are occupied in any given year. Because of their mobility, peregrines that use the Willamette NF are part of a larger population. There was only 1 known nest site in Oregon in 1980 (USFWS 1982). By 2010, this number had increased to 163 (Koloszar 2011).

Due to lack of funding and higher wildlife priority needs, peregrine falcon management plans have not been developed for most nest sites. However, all proposed activities that could affect peregrine falcon are addressed in project Biological Evaluations. Seasonal restrictions are applied around active nest sites where needed, including seasonal restrictions on roads, trails, and area closures. When the Willamette Forest Plan started in 1990, there were no known peregrine falcon nests on the Forest. Today there are 28 documented nest sites, although not all are occupied in any given year. Because of their mobility, peregrines that use the Willamette NF are part of a larger population. There was only 1 known nest site in Oregon in 1980 (USFWS 1982). By 2010, this number had increased to 163 (Koloszar 2011).

ACCOMPLISHMENTS

Koloszar, J.G. 2011. *Results of peregrine falcon breeding survey in Oregon, 2010: 31 Jan. 2011.* Oregon Department of Fish and Wildlife, Salem, OR.

USFWS. 1982. *Recovery plan for peregrine falcons (Pacific population).* Unit 1, Denver, CO.



Monitoring Question 19: Primary Cavity Excavators

Is adequate amount, quality, and distribution of snag habitat being maintained to ensure viable populations of cavity nesting species?

Harvest units are monitored to determine whether the number, size, species, and distribution of wildlife trees are retained after harvest as prescribed in the accompanying Environmental Assessments. Some units are monitored to determine if there is a need to create snags after logging. Of 4 harvested units monitored in 2011 on the Middle Fork RD, all were in compliance with wildlife tree, snag, and downed wood retention prescriptions. On the McKenzie River RD, 9 units were monitored for snags and 8 units were monitored for downed logs after logging. None of the units met the snag or downed wood prescription. However, because sufficient green trees were retained, all 17 units are expected to meet the prescription after snag and down wood creation have been completed. Because timber harvest practices have shifted from clearcutting old forests to thinning younger stands, large numbers of green trees are left, in addition to specific wildlife trees, which help provide habitat for cavity nesters and future sources of downed logs.

Snags are created annually using a variety of methods, such as tree topping, girdling, top blasting, and/or inoculation to create cavity nesting habitat generally in connection with timber sales. In 2011, snags were created on 1178 acres of commercially thinned stands on 3 districts at a density ranging from 0.5–4 snags/acre. The density created often depended on the number of snags found present after logging. Snags are also created incidentally by prescribed broadcast burning some units after thinning. The McKenzie River RD monitored 3 units totaling 256 acres that were prescribed burned after thinning. The amount of snags created by fire was 0.06, 0.43, and 1.75/ acre in the 3 respective units. The McKenzie River RD also created downed wood on 382 acres of thinning units by falling about 1.5 trees/acre after logging.

In 2011, the McKenzie River RD monitored 254 fire-killed snags in harvest units. Two years after burning, these snags showed low overall foraging use. The district also monitored 825 wildlife-created snags. Three to five years after snag creation, 96% of the snags showed foraging use and 0.5% had potential nest cavities. Longer-term studies on

the Forest have found significantly higher densities of cavity nesting birds as a group in thinned units with 2 created snags/acre compared to unthinned stands with snag creation from 5–12 years after logging (Hagar and Friesen 2009), with monitoring on-going. Observations to date suggests that snag retention and creation helps maintain and promote use by primary cavity excavators in areas of timber harvest.

Literature Cited:

Hagar, J., and C. Friesen. 2009. *Young stand thinning and diversity study: Response of songbird community one decade post treatment.* U. S. Geological Survey Open-File Report 2009-1253. 20 p.

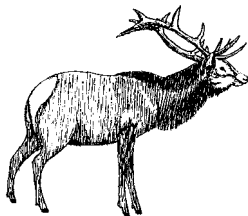


Monitoring Questions 20: Marten & Pileated

Is there an adequate amount, quality, and distribution of mature or old-growth forests to maintain viable populations of species dependent on this successional stage of forest habitat?

Upon adoption of the NWFP, the pileated woodpecker and marten networks were reevaluated and nodes of habitat were maintained or dropped in order to provide connectivity between large LSRs. The LSRs were expected to provide adequate habitat for both pileated woodpeckers and martens. Snag and downed log creation occurs throughout the forest in connection with timber sale mitigation using primarily KV funds. These measures enhance habitat for both pileated woodpeckers and marten. As a result of major changes in how pileated woodpeckers and marten are managed under the NWFP, changes are recommended to this monitoring section during Forest Plan revision.

Marten and pileated woodpecker management areas are protected from timber harvest according to Forest Plan Standards and Guidelines. A GIS query was run on the forest-wide stand data in 2011 (SO wildlife files, unpublished). About 68% of the forested land on the Willamette NF is 80 years or older and about 37% is more than 200 years old. In the 22 pileated woodpecker management areas, about 89% of the forest is 80 years or older and about 71% is more than 200 years old. In the 30 marten management areas, about 94% of the forest is 80 years or older and about 64% is more than 200 years old. These management areas provide high-quality older forest habitat for those species.



Monitoring Questions 21: Deer and Elk

Are habitat effectiveness values for cover quality, forage quality, open road density, and size and spacing of food cover being increased or maintained as established for each emphasis level?

Regionally the consensus among elk biologists in Oregon and Washington is that Forest Service and Bureau of Land Management elk management plans developed during the

past couple decades, such as the Willamette Forest Plan, are based on science that is outdated (Wisdom et al. 2007). Substantial research since 1990 has suggested that elk are limited by the nutritional adequacy of the habitat, including forage area, forage biomass and quality, and the effects of human disturbance on forage availability. Available forage quality and quantity is also thought to limit black-tailed deer populations on the Forest (Oregon Department of Fish and Wildlife [ODFW] 2008). An updated elk habitat model reflecting current science was developed by a group of elk researchers (Boyd et al. 2011). The key components that have been identified as important for predicting elk habitat use are: 1) dietary digestible energy, 2) distance to cover/forest edge, 3) distance to nearest road open to public use, and 4) mean slope. The model has provided a map of elk habitat for the Willamette NF and can be used to evaluate how timber harvest, other silvicultural treatments, and natural wild fires affect elk habitat.

Deer and elk populations decline due to poor forage quality.

ODFW developed a statewide management plan for black-tailed deer in 2008. This plan, as well as the modeling and research efforts discussed above, are noting the need for better quality forage areas on National Forest lands. With the cessation of large-scale clearcutting in the Northwest Forest Plan, forage quality and populations have declined on the Forest for both deer and elk. Three Oregon State Wildlife Management Units (WMUs), Santiam, McKenzie River, and Indigo, overlap the Willamette National Forest. In the Santiam WMU, which includes the Detroit RD and the northern part of the Sweet Home RD, deer harvests have declined from about 3400 in 1990 to 1540 in 2010 while hunter success has declined from 21% to 11% during that time (Chris Yee, personal correspondence). In the McKenzie WMU, which includes the McKenzie RD and portions of Sweet Home and Middle Fork RDs, deer harvests have also declined from about 3400 in 1990 to 1530 in 2010, while hunter success has declined from 34% to 14% during that time. In the Indigo WMU, which includes the southern portion of the Middle Fork RD, deer harvests have also declined from about 2600 in 1990 to about 730 in 2010, while hunter success has declined from 38% to 16% during that time. The decline in total deer harvests and hunter success reflects overall decline in deer numbers on the Willamette NF during this time period.

Elk harvests and hunter success peaked in the late 1990s in all three WMUs and have declined since then (op cit.). The estimation of elk numbers is not an exact science. The professional consensus of the ODFW area managers, based on minimum known elk numbers, estimates of animals missed during surveys, and the amount of areas lacking counts, is that Santiam, McKenzie River, and Indigo WMUs are each substantially below State Population Management Objectives (op cit.) Limited forage on National Forest lands and a need to reduce elk numbers on private lands to lower damage to reforestation are factors responsible for the lower than desired elk numbers. In some areas, elk and deer have shifted from public lands to private lands which have more young clearcuts.

ACCOMPLISHMENTS

Specific mitigation measures or design criteria for elk and deer habitat are often developed during timber sale planning. Thinning spacings may be increased or varied or stands may be underburned to increase forage production. Specific wildlife projects, such as forage planting, prescribed burning and meadow restoration, are designed to improve forage quality and abundance for deer and elk. About 16165 acres of accomplishments were reported in 2011 that benefitted elk and deer habitat. These projects include 925 acres of commercial thinning and gap creation, 191 acres of browse cutback, 354 acres of weed treatment, 201 acres of meadow restoration and prescribed burning, 591 acres of forage seeding and shrub planting, 11974 acres enhanced with road closures, 60 acres of fertilization, 250 acres of savannah restoration, 123 acres of mowing, 1470 acres of beneficial managed wild fires, and 26 acres of other forage enhancement projects. Many projects to improve elk and deer habitat are done with outside partners, including the Rocky Mountain Elk Foundation, Oregon Hunters Association, Oregon Foundation for Black-tailed Deer, Mule Deer Foundation, and the Oregon Dept. of Fish and Wildlife.

Opportunities to close roads to improve habitat effectiveness for elk are considered when appropriate with other management objectives and when funding allows. About 38 miles of road closures were implemented this year and several hundred miles of existing gated roads were inspected and gates and locks were maintained to provide increased habitat security.

Thirty nine big game enhancement projects across the forest were inspected in 2011. All 39 projects had use by deer and elk. Limited funding for pretreatment monitoring and for quantitative sampling hampers the ability to determine if the treatments have increased ungulate use. Based on qualitative observations and limited quantitative data, 13 treatments were thought to have increased big game use and 2 were thought to have maintained the level of big game use. For the other 24 sites, it is uncertain if use increased as a result of the enhancement work.

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Yee, Chris. 2012. ODFW Assistant District Wildlife Biologist, Springfield, Oregon, personal correspondence to Joe Doerr, Willamette Forest Wildlife Biologist, Springfield. 1/17/2012.



Monitoring Questions 40: Biological Diversity

Is biological diversity being maintained or enhanced on the Forest?

In January 2008, Region 6 updated its list of Sensitive Species and developed a new list of Strategic Species. These species, together with federally listed and proposed species comprise the current list of Forest Service “Special Status Species”. There are now 7 invertebrate, 10 bird, 3 amphibian, 1 reptile, and 5 mammal Sensitive Species suspected or documented on the Willamette National Forest. One bird and 8 invertebrate species that are classified as Strategic are also suspected to occur on the Forest. There are also 31 fungi, 28 bryophytes, 16 lichens and 44 vascular plants on the sensitive list, and 36 fungi, 25 bryophytes, 7 lichens, and 5 vascular plants on

The Forest provides habitat to numerous threatened species and “Special Status Species”.

the Strategic list. The Forest provides habitat for one federally threatened bird, 1 federally endangered fish, and 3 federally threatened fish. Effects to federally threatened and endangered and Forest Service sensitive species were evaluated for each proposed project. In FY 2011, 98 project-level Biological Evaluations or Assessments were conducted

to address effects and identify mitigation measures for these species. There were 5 informal consultations on project effects with the U. S. Fish and Wildlife Service or the National Marine Fisheries Service. One formal consultation was conducted with the U. S. Fish and Wildlife Service and the National Marine Fisheries Service on project effects to federally listed fish.

Forty eight acres of western pond turtle habitat were enhanced and monitoring of nest sites and potential habitat areas were conducted cooperatively with other agencies and private partners. Two abandoned mines on the Sweet Home Ranger were closed with bat gates. Seeds of the sensitive *Arabis hastatula* were grown to seedlings for restoration of the population at Iron Mountain on the Sweet Home Ranger District. Survey work on the Forest helped find and describe a new monotypic sensitive species, the Cascade axetail slug. Specific inventory and monitoring surveys were conducted on the Forest for the Cascade axetail slug, bald eagles, and peregrine falcons under the Regional Special Status Species Program. Sensitive plant work under that program included monitoring for the fungi *Bridgeoporus*, fungi surveys in commercial aged thinning stands, and bryophyte surveys in meadows. The northern spotted owl demographic study was continued on the HJ Andrews Demographic Study area. Six MAPS stations were run with numerous partners to capture and record neotropical breeding birds. Ten sensitive plant populations were monitored. Forest Service biologists completed a site plan for Oregon spotted frogs at Gold Lake. Additional surveys for Special Status Species were conducted at the project-

level. Potential habitat for sensitive species habitat is often buffered from activities in lieu of surveys. The Forest continued to host the Center of Excellence for Bats, and the Bat Grid Program conducted systematic monitoring for bats on the Forest.

About 23,680 acres of terrestrial habitat were enhanced for native wildlife and plant species using a combination of designated, integrated, and partnership funding and in-kind support. These projects included road closures, native seeding and browse planting, commercial thinning to increase diversity, browse cutback, maintaining forage openings, off-road weed treatments, snag and downed log creation, fertilization, bat gates, and nest box construction. Key benefitting species include elk, deer, cavity excavators/users, terrestrial amphibians, and turtles. Prescribed burning, cutting small conifer encroachment, and native seeding were used to maintain and enhance 206 acres of unique meadow habitat across the forest. Native seeding and oak planting on the Middle Fork District restored 250 acres of pine savannah. Over 38 miles of roads were closed with legacy and wildlife funds reducing disturbance to elk, deer, and other wildlife on about 12,000 acres. About 1,470 acres burned by wildlife fires in 2010 were determined to have produced overall beneficial effects to plants and wildlife by moving the habitat to a more desirable condition.



New Monitoring Question: Survey and Manage

Have surveys been conducted for Category 2 survey and manage species for all habitat-disturbing activities?

In 1994, the Northwest Forest Plan listed specific species for special protection. The January 2001 Record of Decision and Standards and Guideline for Amendments to the Survey and Manage, Protection Buffer and other Mitigation Measures Standards and Guidelines refined and clarified the direction to survey and manage for rare and uncommon species associated with late successional forest habitat. Known sites of these species should be managed for their protection and surveys are to be conducted for selected species whose habitat is planned for ground-disturbing activity. These “survey and manage” provision provides benefits to amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens, and arthropods.

The requirements for Survey and Manage were removed by the July 2007 Record of Decision and Environmental Impact Statement to remove the Survey and Manage Mitigation Measure Standards and Guidelines from Forest Service Land and Resource Management Plans Within the Range of the Northern Spotted Owl. This ROD was challenged and the 2011 settlement agreement *Conservation NW v. Sherman*, Case No.

ACCOMPLISHMENTS

08-CV-1067-JCC set aside the 2007 ROD and restored the January 2001 ROD, thus reinstating Survey and Manage direction.

Red tree voles protected during harvest activities.

In FY 11 surveys for red tree voles were completed on 2608 acres. Pre-disturbance project surveys were done on 802 acres for mollusk species. Survey and manage botanical species were surveyed for at the same time as sensitive botanical species on 9422 acres throughout the forest. All surveys were completed before any habitat disturbing activity. Some projects protected the habitat of Survey and Manage species by buffering their habitat in lieu of surveys.

Plants



Monitoring Question 16: Threatened, endangered, and sensitive plants

Have populations of all threatened, endangered, and sensitive (TE&S) plants been inventoried, and are these plant populations being maintained at viable levels?

Were surveys conducted for all ground-disturbing projects?

Surveys were conducted on over 9422 acres for projects ranging from timber sales to new toilet construction. Thirty-five Biological Evaluations were written to document effects on sensitive species. Fifty-nine new sensitive botanical species (including vascular plants, lichens, bryophytes and fungi) were located during surveys.

SENSITIVE PLANT MONITORING AND RESULTS

District Botanists monitor the health of sensitive plants on their Ranger Districts as part of the Threatened, Endangered and Sensitive plant program. In 2011, eleven different locations were monitored. Monitoring can range from checking that plant populations are still in the area to actual counting of individuals within a population, see table below.

Species Name	Results
<i>Arabis hastatula</i>	Population on Iron Mountain stable; collected seed for banking; working with Portland state University on growing out plants to reintroduce to impacted site
<i>Botrychium minganense</i>	Numbers up from last year; population had been in decline for several years

ACCOMPLISHMENTS

<i>Bridgeoporus nobilissimus</i>	One location conk dead; other location conk stable
<i>Gentiana newberryi</i>	Population not as vigorous, fewer plants
<i>Lycopodiella inundata</i>	Population stable; known area expanded
<i>Marsipella emarginata</i> var. <i>aquatica</i>	Population stable
<i>Ophioglossum pusillum</i>	EWEB taking baseline data using water table gauges installed at population on McKenzie River District; Population on Middle Fork very small (2/23 individuals found). Need to revisit in 2012.
<i>Romanzoffia thompsonii</i>	Population stable
<i>Pseudocypbellaria rainierensis</i>	Population stable
<i>Schoenoplectus subterminalis</i>	Population stable; collected seed for banking



Gentiana newberryi lacked vigor this year; perhaps due to late snow pack and short growing season



Monitoring Questions 40: Biological Diversity

Is biological diversity being maintained or enhanced on the Forest?

The Willamette National Forest is a biologically diverse forest. Restoration projects being done to maintain and enhance biodiversity are listed below. Several meadows are being actively managed in partnership with many outside groups.

Jim's Creek Oak Savannah Enhancement: This Stewardship demonstration project has been ongoing for many years. In 2011, we seeded 50 acres of plantation with native California fescue following a prescribed burn.

ACCOMPLISHMENTS

Browder Ridge:

Burned 20 additional acres in an ongoing prescribed burn/restoration project.

Calapooya 1 Meadow

Restoration: The Fire crew whipfelled and piled 46 acres of meadow and Burned Grass Mountain meadow (see below)



Prescribed burn at Grass Mountain, Calapooya Divide, Middle Fork District.

Mule Meadow: ATV damage and treated invasive species for a second year.

North Ferrin Meadow: Completed invasive plant removal

And we are monitoring the success of our terrestrial restoration efforts:

Jim's Creek: Monitored the effectiveness of release on legacy Douglas fir, Ponderosa pine and Oregon oak and the response of the understory to release and seeding

Tumblebug Fire Area: Monitored the effect of wildfire on wildlife use and plant recovery.



New Monitoring Question: Noxious Weeds

Are noxious weeds being treated on the Forest? Are surveys being conducted for weed populations and are partnerships being developed?

Over six thousand acres of invasive plants were treated on the Willamette National Forest in 2011, using manual, mechanical and chemical control methods. We partnered with Portland Gas and Electric and Consumer Power on treating weed populations in their powerline corridor and in hot spots near roads on Detroit District. The



Figure 3. Youth Conservation Corps manual Scotch Broom removal on McKenzie River District

ACCOMPLISHMENTS

Marion County Correctional Crew helped treat 230 acres on Detroit District. The Youth Conservation Corps was active on the McKenzie and Middle Fork Districts and the Linn County Youth Crew worked on Sweet Home District.

When weeds are located assistance from volunteers are requested.

Weed surveys have been fully integrated into project surveys across the Forest. In addition, the Willamette and Deschutes National Forest received a Wilderness Stewardship Challenge Grant and surveyed in parts of 6 Wilderness areas along 110 miles of trail to assess the density of weeds in Wilderness on the Forest. Small scattered populations of weeds were located. We will request High Cascades Volunteers and Forest Service High Country Rangers to help manually control weeds at documented sites.

Partnerships continue to be important for leveraging funding and treating invasives on all ownerships. In 2011 a partnership with the University of Oregon continued on a study on the effects of prescribed fire on false brome on McKenzie River and a volunteer day with the Oregon Hunter's Association and the Rocky Mountain Elk Foundation in Detroit treated invasives along powerline corridors. Weed treatments in Horse Creek on the McKenzie were done in conjunction with the McKenzie Watershed council and treatments in Little Fall Creek were done with the Upper Middle Fork Watershed Council. The forest participated in 2 Cooperative Weed Management Areas and the Northwest Weed Management Partnership. We presented invasives identification and prevention at the Forest Volunteer training.



New Monitoring Question: Native Species Revegetation

Is the Forest using native seed for restoration projects across the Forest?

Seed Growout Contracts:

We had 2 contracts for seed growout this year which resulted in procurement of the following:

- 25 Tons of native weed-free grass straw
- 1050 pounds McKenzie Blue wildrye
- 1325 pounds Middle Fork blue wildrye
- 1825 pounds Santiam blue wildrye
- 3200 pounds California brome

Seed Collection: A significant amount of funding was given to each Ranger District this year to collect riparian species for use on the projects such as Respect the River. Many species such as thimbleberry, native rose, gooseberry, raspberry, huckleberry, salmonberry

ACCOMPLISHMENTS

and native blackberry were collected. In addition, California oatgrass, Columbia brome and blue wildrye were targeted for collection so we can reestablish fields.

Legume Growout: The Forest contracted with Horning Native Plant Program, our partner in growing legumes since 2003, to grow legume plugs for outplanting. The Program folded in March 2011, so plugs were moved to the Corvallis Plant Material Center where they will be outplanted in the spring of 2012. Trifoliums collected this year will be added because *Lathyrus polyphyllus* did not germinate as well as we had hoped. Seed produced will be used for a native wildlife mix.

Cooperative Projects: Hardwood cuttings collected in 2010 were planted for browse by McKenzie District's YCC crew and McKenzie River HS students

Using funds from a CCS called Keeping it Native!, we initiated seeding trials at Santiam Pass ATV Area using plugs of California brome and squirreltail grown by Trillium Gardens and seed collected by Walama Restoration Project.

Native grass seed is used on a variety of projects from wildlife seedling in created openings in the forest to revegetation along roads that are closed in timber sales.

ACCOMPLISHMENTS

Resources and Services to People

This section of the monitoring report describes the resources and services the Forest provides its constituents. Recreation, timber, and roads provide direct

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benefits to many users of the forest. Benefits from other areas such as the cultural resources and research natural areas provide a more indirect benefit designed to assist the Forest Supervisor in determining the effectiveness of the Forest Plan Standards and Guidelines in providing expected resources and services to our constituents.

If the reader is interested in more information than what is provided in the following summary they may request the documents listed under Supplemental Information.

RESOURCES AND SERVICES TO PEOPLE SUMMARY FINDINGS

Resource	Monitoring Question	Monitoring Activities	Monitoring Results	Supplemental Information
<i>Cultural Resources</i>	2 - Cultural Resources	Site visits	Results OK	Heritage FY11 monitoring report
<i>Specially designated unique areas</i>	3 - Wilderness	District reporting, on-site visits by district personnel	Results OK	Recreation FY11 monitoring report
	4 - Wild and Scenic Rivers		Results OK	
	5 - Roadless Areas		Results OK	
	9 - Special Interest Areas		Results OK	
	39 - RNAs	Site visits and scoping	Results OK	RNA FY11 monitoring report
<i>Recreation</i>	6 - ROS	District reporting, on-site visits by district	Results OK	Recreation and Scenic FY11 monitoring report NVUM Survey FY08.
	7 - Recreation Visitor Use		No new results until 2012	

ACCOMPLISHMENTS

Resource	Monitoring Question	Monitoring Activities	Monitoring Results	Supplemental Information
	8 - Scenic Resources	personnel	Results OK	
	10 - Trails	District reporting, site visits	Limited results	Trail FY11 monitoring report
	11 - Developed Recreation	District reporting, on-site visits by district personnel	Results OK	Recreation FY11 monitoring report
	12 - Off-road vehicle use		Results OK	
<i>Timber</i>	22 - Timber Suitability	Review of land allocation changes	No new results	--
	23 - Timber Program	Review of timber records	Results OK	Timber records
	24 - Silvicultural Practices	Review of silvicultural records	Results OK	Silvicultural records
<i>Transportation</i>	38 - Transportation System	Reports, databases, traffic counts	Results OK	Transportation FY11 report

Cultural Resources



Monitoring Questions 2: Cultural Resources

Are significant cultural resources being managed and protected consistent with the Forest Plan direction and law?

The Forest cultural resource inventory reflects a resource base of over 2000 recorded cultural resources including archaeological and historic sites, trails, and structures. We have recorded a multitude and variety of isolated finds and features, as well. Through a variety of program efforts, the Forest is managing and protecting these sites consistent with the Forest Plan direction and applicable federal law. Archaeologists are involved at all levels of project planning to ensure that cultural resources and historic values are considered. Over 6000 acres were surveyed for cultural resource last year with 60 sites newly discovered, recorded, and protected. Protection by avoidance or project redesign is typically recommended for sites discovered or monitored in conjunction with project planning. When those options are not feasible, adverse effects

ACCOMPLISHMENTS

would be mitigated through scientific recovery and preservation of the data embodied in the historic property.

Sites are monitored during heritage hikes, proposed activities, and by representatives from local tribes.

During FY2011, Heritage staff reported monitoring visits to 64 sites, which represents about 2.5 % of the total inventory of known sites. These monitoring visits occur most often in conjunction with proposed project surveys or as follow-up to recent projects. Several sites were monitored in conjunction with heritage hikes and projects, and some with representatives of local tribes. Typically when a site is monitored, site records are updated as needed with current narrative information regarding condition, photo documentation, and often GPS data collected.

At most sites visited, no significant new impacts were reported. Overall most sites were found to be in good-to-fair condition. Impacts noted at individual sites were either minor or were existing damages that had been noted in the past, for example past logging or road construction. In several instances, current conditions indicate on-going impacts related to Off-Highway Vehicle (OHV) use. This situation was specifically noted at five sites. Fortunately measures are being implemented Forest-wide in an effort to reduce environmental damages. The cumulative effect of erosion was noted at a couple sites – this

Sites are being protected from OHV use.

combined with heavy recreation use increases the potential for unauthorized artifact collection at some sites. On a smaller scale, some site disturbance was found in association with dispersed campsites. Some incidents vandalism were noted but were relatively minor and would not constitute a violation under the Archaeological Resource Protection Act (ARPA). Generally there are a few sites which cannot be relocated due to changed environmental conditions, vegetative encroachment, or incomplete information on early site forms. Many of the sites monitored, were characterized as overgrown with dense vegetation. Effects of weathering and erosion are commonly noted.

Monitoring of three “heritage asset” historic structures, including a railroad trestle, was reported this year. Historic buildings that are actively used by the Forest (Multi-Use Assets) are typically being maintained according to historic preservation standard. However those that are not actively used are not consistently well maintained and may be subject to vandalism. Several fine examples exist across the Forest of historic preservation through appropriate maintenance and rehabilitation efforts at many important historic sites, including Longbow and Clark Creek Organization Camps, Independence Prairie Guard Station and Fish Lake Remount Station. Several historic lookouts are regularly maintained, stabilized or repaired in partnership with a lookout volunteer group.

Continuing programs of public outreach and education strive to improve understanding and appreciation for these resources. Preservation signing is encouraged at historic buildings and other vulnerable site areas where public use is concentrated, such as

ACCOMPLISHMENTS

campgrounds, trailheads, and OHV-use areas. We are working in conjunction with broader forest efforts to curtail access to sensitive resource areas, e.g. Respect the River.

Consultation with the State Historic Preservation Office (SHPO) continues under a Programmatic Agreement for compliance with the National Historic Preservation Act. Consultation with local federally-recognized tribes continues to improve. Review of a sample of environmental documents indicates consistent consultation with SHPO and improved documentation of consultation with Tribes.

The heritage program staff provided numerous interpretive opportunities, classroom visits and Outdoor school presentations. The Sweet Home RD continues to host the annual Conservation Civilian Corps Alumni picnic each summer, as well as numerous Heritage hikes and an annual Heritage Expedition, all of which are very popular with the visiting public.

Here are some other significant accomplishments & highlights that we report elsewhere that you may want to include in the report:

- Met our "target" of 100% of our "Priority Heritage Assets" managed to Standard;
- With financial support from the Oregon Historic Trails Funds (grant) we completed 3 new interpretive panels (one to be installed next spring) for the Santiam Wagon Road; and an interpretive brochure which is available on line as well as in district offices and local historical society museums;
- completed other interpretive exhibits during FY 11: Inter-Agency Historic Photo display in the SIO, and soon-to-be-installed in the Detroit RD Front office an exhibit on the Historic Oregon Pacific Railroad;
- Participated in Girls in the Woods & Outdoor School offering children some exposure to archaeology and Native American life on the Forest;
- Hosted numerous Heritage Hikes for school groups, and others such as International Archaeological Film Festival participants.
- Participated in the High Cascades Forest Volunteer Training provided volunteer training in archaeological excavation;
- Contractors provided relevant documentation toward the Listing the Old McKenzie Highway on the National Register of Historic Places (NRHP), and another found Clear Lake resort Not Eligible to the NRHP.

Specially Designated Unique Areas



Monitoring Questions 3: Wilderness

Is wilderness being managed to provide for a wide range of permitted uses while maintaining wilderness character and natural processes?

The Forest monitors the class settings and use levels of its wildernesses. The Wilderness Resource Spectrum class settings are consistent with the S&Gs for Wilderness management.

The Cascade Crest Coordination Committee (CCCC), comprised of leadership from both the Willamette and Deschutes National Forest, provides guidance on wilderness management issues for the Mount Jefferson, Mount Washington, Three Sisters and Diamond Peak Wilderness areas. The Wilderness Working Group (WWG) is made up of wilderness managers from both Forests, and implements the strategies of the CCCC. Since 2005, the WWG has improved wilderness stewardship by creating and implementing a wilderness education plan, designing and pilot testing a recreation site monitoring program, completing the first phase of fire use planning, invasive plant monitoring, and improved communication and coordination between the two Forests. In 2011, the WWG continued to coordinate work in support of meeting the Chief's 10 Year Wilderness Stewardship Challenge, including wilderness recreation site inventory, invasive weed monitoring, and monitoring of permitted commercial outfitters and guides. In 2010, the

A moratorium on new commercial uses in wilderness continues to be in place.

forests partnered with West Virginia University to complete a visitor use survey for the Mount Jefferson, Mt. Washington and Three Sisters Wilderness areas to collect the data necessary for a completing a needs assessment of commercial and institutional use of these wilderness areas. The forests received the results of the survey late in 2011 and will begin analysis in 2012. Until the needs assessment is completed, a moratorium on new commercial uses in wilderness continues to be in place.

A permit system monitors visitor use in all wilderness areas on the Willamette National Forest. Based on data submitted, visitor encounters are estimated to be within the established Forest Plan Standards with some exceptions. Standards for the number of visitor encounters are also estimated to be exceeded during weekends and the peak season at: Marion Lake, Jefferson Park, the Eight Lakes Basin, Duffy Lake, Erma Bell Lakes, Benson Lakes, and Tenas Lakes. In the two Limited Entry Areas, forest patrols, designating sites, and other actions at Pamela Lake and Obsidian Cliffs have improved social and resource conditions. Use numbers for both Limited Entry Areas fluctuates seasonally due based on weather and in the case of Obsidian, when Hwy 242 is open for vehicle travel; in 2011, the highway did not open until late June. Obsidian's visitation in 2011 was 2,165 people for a total of 4,425 use days, down from 3,066 visitors in 2010. At

ACCOMPLISHMENTS

Pamelia LEA, 2011 saw 2,939 visitors and 6,134 use days, about the same as the 3,207 people and 10% fewer than the 6,601 use days in 2010.

Fires in the last two years have had impacts on the wilderness experience.

Recent burns in the Mt. Jefferson Wilderness continue to displace users into unburned portions of the Wilderness, potentially causing increased encounters and impacts to campsites. For the second year in a row, there was a notable fire in the Mt. Washington Wilderness. In 2011, the Shadow Lake fire burned in the north and northeast part of the wilderness, including areas managed by the Deschutes National Forest. Some trails and trailheads, including the Pacific Crest Trail were closed as a result of the fire. The fire and fire suppression efforts severely impacted the Patjens Lake trail; the Forest has received BAER (Burned Area Emergency Response) funding to rehabilitate these areas and rebuild trails in 2012.

There were numerous other fires in wilderness areas, including the Substitute Fire in the Three Sisters Wilderness and the Mother Lode Fire, which affected the Opal Creek Wilderness, causing closures and impacting trails. Where possible, the forest has begun to use “Confine and Contain” strategies with wildfires in the Wilderness, yet suppression efforts continue to negatively affect wilderness character through the use of motorized and mechanized tools, including retardant drops, creating fire lines, escape routes, helicopter landing zones and evacuation sites. Additionally, most lightning starts continue to be immediately suppressed, including 14 starts of the McKenzie River Ranger District.

In the Mt. Jefferson Wilderness, trail crews removed approximately 30 culverts and installed step-down drains, continuing the on-going effort to remove non-conforming and failing structures and bring trails into compliance with the Forest Plan.

The Forest made significant progress in the Chief's 10-Year Wilderness Stewardship Challenge in 2011. Point gains were realized this year largely due to campsite inventory performed by the regional task force, especially in the smaller Wildernesses (Menagerie, Opal Creek and Middle Santiam). The Wilderness also made gains by treating several known weed sites.



Monitoring Questions 4: Wild and Scenic Rivers

Are the outstandingly remarkable river values of all eligible, study, and designated Wild and Scenic Rivers being maintained or enhanced as required?

All designated study and potential Wild and Scenic Rivers are being protected consistent with the Wild and Scenic Rivers Act. Formal and informal monitoring of conditions on the North Fork of the Middle Fork and the McKenzie Wild and Scenic Rivers is being conducted in accordance with their WSR management plans, and the outstanding remarkable river values (ORV's) standards are being met. The McKenzie River Ranger

ACCOMPLISHMENTS

District continued to implement a voluntary private boater registration program and in 2011 gathered additional data about river use through an on-site interview questionnaire.

Federal and state agencies are looking at the North Fork of the Middle Fork Willamette River as potential location for salmon recovery efforts, including off-loading adult salmon. District staff are involved in the projects and working closely with the partner agencies to ensure the protection of ORVs.

In 2011, the forest partnered with the University of Idaho and Oregon State University to develop a survey for the McKenzie River Study, with the goal to do data collection during the 2012 season. The study will help the Forest determine appropriate commercial and non-commercial use levels of the upper McKenzie River and the McKenzie River National Recreation Trail. Currently, some commercial uses are restricted on the trail, and commercial outfitter and guide river use is authorized under transitional use permits until the river study is completed.

Work continues with the Oregon State Marine Board on the aquatic invasive species prevention program. Elkhorn Creek, which was designated as Wild and Scenic River under the Opal Creek legislation (1998), still requires a management plan. There were no changes to the designation status of eligible and Study Rivers in 2011.

Monitoring Questions 5: Roadless Areas

Are Roadless Areas being managed as provided for in the Forest Plan?

Monitoring of roadless areas focuses on whether the acreages and numbers of inventoried roadless areas and other unroaded areas are consistent with Forest Plan direction. No changes to the roadless area boundaries occurred in 2011. The last change occurred in 1998 when 275 acres of the Waldo-Moolack inventoried roadless area within the Desperado timber sale planning area was found to be incorrectly classified as roadless. Forest Plan Amendment 34 was completed to correct the roadless area boundary.

In FY00 roadless area boundaries as depicted in Appendix C were moved into GIS (a spatial database).



Monitoring Questions 9: Special Interest Areas

Are the natural, cultural, and historic attributes and conditions of designated special areas being managed to assure their protections and proper human use?

Generally, unique areas on the Forest such as SIAs, OGGs and OCRA are being managed to protect their special attributes. Minor site-specific problems continue to occur in localized areas within special interest areas but overall area attributes are being protected.

ACCOMPLISHMENTS

Efforts continue to improve motorized recreation.

Efforts are on-going to rehabilitate existing motorized recreation-vehicle impacts to the Santiam Wagon Road SIA. As part of the Santiam Pass Motorized Recreation Project, work has included narrowing and realignment to its historically appropriate width; elimination of inappropriately located dispersed campsites and trail crossings within the SIA, re-vegetation of impacted areas; installation of barriers, regulatory signs, and identification posts along the SWR; and increased patrol coverage to gain user compliance. Funding for this project came from the Oregon Parks and Recreation Department, which has provided continued funding in 2011. In 2011, the forest completed an interpretive brochure and information panels; the panels will be installed in 2012.

The Detroit District has drafted the Jo-Jo-Bruno Lakes SIA Implementation Guide, which is expected to be finalized in 2012. .

In 1998 the Opal Creek Wilderness and Scenic Recreation Area (SRA) was created along with the Opal Creek Advisory Council. A comprehensive management plan was completed in 2002. The district continue to manage the Three Pools Day Use Area, which has helped the district meet management goals for the Opal Creek SRA.. The area saw significant improvements in terms of managing congestion, reducing law enforcement issues, and generated positive comments from visitors about the site and their experience.

A non-profit group, Friends of Fish Lake, was formed in 2010. Building off the memorandum of understanding that was signed in 2010 by the Friends of Fish Lake and the Forest, the parties developed a master plan for the area, which includes Fish Lake SIA. The plan outlines and prioritizes future management actions. One element of this plan includes the implementation of a Federal Highways Administration grant awarded in 2010 for improving interpretive facilities and universal access. The Friends of Fish Lake also continued to organize a volunteer week in early June and help with building and site maintenance and improvements. Accomplishments in 2011 included installing a new kiosk and new display cases in the tack room and metal smithing room.

Monitoring Questions 39: Research Natural Areas

Are Research Natural Areas being protected and inventoried for use as ecological reference points?

A Research Natural Area Volunteer Stewardship program was in effect for four very successful years. The Forest had one volunteer steward that visits RNAs on the Forest and reports his findings. His work was coordinated jointly between the Forest's RNA Coordinator and the District RNA Coordinators on the Forest. Unfortunately the program came to an end with a change in policy on how the agency will support volunteers. His work was and will continue to be extremely valuable to the forest.

ACCOMPLISHMENTS

Gold Lake Bog was monitored on different fronts during 2010. Surveys were completed for northern waterthrush and in the fall a beaver was surveyed. USGS is conducting a short-term project tracking of Oregon spotted frogs. Oregon Department of Fish and Wildlife is also doing fish trapping efforts in the upper lake and with the RNA.

Waterbrush: In 2011, the Interagency Special Status/Sensitive Species Program (ISSSP) funded the Willamette and Deschutes National Forests to complete the following tasks:

- Validate past records of historical breeding of northern waterthrush on the Deschutes and Willamette National Forests and enter records into the NRIS Wildlife database.
- Conduct breeding area surveys for northern waterthrush in identified breeding areas to determine presence/absence in 2011. Habitat information will be gathered at any sites where the birds are detected.

During the 2011 field season Gold Lake Bog was visited between June 22nd and July 27th. No waterthrush were detected at any of the sites during these visits. The last detection as June 28, 1986 by Lane County Audubon. Future visits are planned.

Beaver surveys: We searched the perimeter of Gold Lake for signs of beaver and then entered the bog area through the main Salt Creek channel, paddled around Gold Bog Pond and then explored the area north and east of the pond on foot. No signs of beaver foraging activity or dens were found along the lake shore, aside from the bog margin near the Salt Creek inflow.

Last year we conducted a beaver survey on June 15, 2010. The dams we found last year along the Salt Creek channel between Gold Lake and Gold Bog Pond are still intact and have been refurbished. The lodge near Gold Lake is intact without holes and there are recent runways, cuttings, and beaver scat nearby as well as a few small accumulations of recently cut (but not yet eaten) branches in the main channel.

Large beaver lodges located in Gold Lake pond. North of Gold Bog Pond we found evidence of concentrated beaver use ranging from cuttings, to runways, to feeding platforms, and scent stations. Curiously, we noticed that a lot of the old beaver browse on tall willows was at the 3'-6' height and thus may have occurred during snowpack? We did not find any large food caches. We did find one area (50' radius) east of Salt Creek channel (northeast of Gold Bog Pond) with extensive recent beaver cutting on small low growing willows. We also located a second lodge along the Salt Creek channel approximately 900 feet northeast of the Gold Bog Pond. This lodge has runways and recent cuttings around it. This second lodge is on the edge of a drier, grass-dominated meadow type where Engelmann spruce are slowly encroaching. Beaver activity was noticed upstream of the lodge along the Salt Creek channel, mostly in the form of cutting of lower branches on the large open-grown spruce, and some smaller conifer stems as well as several territorial scent mounds.

ACCOMPLISHMENTS

We mapped out several additional old dams and located another adult Oregon spotted frog along the Salt Creek channel about 100' west of the new lodge. In 2010, we located an adult Oregon spotted frog within 200' of this location.

In summary, there are 5 functioning dams and two lodges on the main Salt Creek channel. Beavers appear to be utilizing much of the area surrounding the channel from where it enters the open meadow portion northeast of Gold Lake Bog to its outlet into Gold Lake. Scent mounds were found throughout this area along the main channel. Where the Salt Creek channel splits multiple times above Gold Bog Pond and becomes undetectable on aerial photos, there are many small but deep channels that could be originally formed by beavers, flowing in apparently random directions in terms of the general directional flow of water from the upper to the lower portions of the bog. Some of these channels flow strongly but are nearly covered by bog and/or shrub vegetation.

Additional observations for the day included: American coot, common merganser, sharp-shinned hawk, American dipper, Clark's nutcracker, Steller's jay, pine siskin, common raven, belted kingfisher, pied-billed grebe, and either horned or eared grebe.

Although there were no Canada geese present, there was sign along the northwest corner of Gold Lake indicating foraging/loafing use. There was also foraging sign on emergent vegetation in Salt Creek channel below Gold Bog Pond.

No recreation impacts were noted in the RNA. There was no sign of recreational impacts north of Gold Lake and we did not encounter any recreationists. There was a small amount of flagging (mostly blue, some yellow) in the bog that is part of a USGS spotted frog research project.

This outing added to the 2010 recognition of the extensive network of canals engineered by beaver throughout the bog – particularly in areas where willow thickets are abundant.

Recreation



Monitoring Questions 6: Recreation Opportunity Spectrum

Are physical/environmental, social, and managerial conditions for dispersed ROS settings being maintained?

Standard and Guidelines in the Forest Plan manage activities for the removal of resource products and actions taken to accommodate or control human use to reduce their negative affect on dispersed ROS settings. Monitoring shows these activities are being conducted in accordance with management S&Gs for recreation opportunity settings (ROS).

Respect the River program seeks to educate recreationists in camping lightly and making improvements.

Specific impacts or efforts related to retaining different recreation opportunity settings were noted at Elk Lake area, Waldo Lake Basin, Opal Creek SRA, Breitenbush River, Scott Lake, and recreation areas adjacent to the South Fork of the McKenzie River, Fall Creek and Upper Middle Fork

Willamette River. In 2011, the Forest continued to use the

Respect the River (RtR) program to address these issues by educating dispersed campers about camping lightly on the land and making improvements to dispersed camping areas to protect riparian areas and protect water quality. Improvements included buck and pole fencing and the strategic placement of boulders to direct and concentrate vehicle and foot traffic away from sensitive riparian areas to already compacted areas that are less sensitive. Some sites were also de-compacted and planted with native plants. In 2010, 19 dispersed campsites on the Detroit Ranger District were improved, with a benefit to 30 riparian acres; the forest also continued to monitor and maintain RtR improvements completed in 2009 in Sweet Home, around Detroit Lake and on the McKenzie River Ranger District. The forest inventoried another 150+ dispersed sites for planning RtR improvements in 2012 and beyond.

The Respect the River program also includes a major education element. As part of this, Forest patrols emphasize public contacts in riparian areas. Site survey forms and public contact forms were standardized, and Forest Protection Officers surveyed dispersed campers to explore how, when and where the public is using sites. Over 750 contacts were made in summer 2010. Education efforts also included printing Respect the River information in Spanish and Russian, and providing stickers, drink coolers, children's tattoos, trowels and signage with the RtR logo and information.

In 2009, the Detroit District made improvements at Elk Lake Campground on the to address use levels, party sizes and user activities that were inconsistent with the designated ROS setting. However, the district has not been able to implement the approved fee as planned in 2010. With the lifting of the national moratorium on new fees in late 2011, the district will be able to charge fees starting in 2012.

Post and pole fencing was built in 2010 to protect the meadow and shoreline at Elk Lake. A similar approach is underway for Scott Lake, near McKenzie Pass, with similar work completed in 2010. At the Santiam Pass Recreation Area, dispersed campsites have been designated, and a no-camping zone implemented, to reduce impacts to vegetation and soils, and to eliminate use conflicts between developed and dispersed campers around Big Lake.

No gas powered motors are allowed on Waldo Lake. A high degree of compliance is noted.

An Oregon Administrative Rule (OAR) was established in 2009 to prohibit gas-powered boat motors and floatplanes on Waldo Lake, except for emergencies and some administrative uses. This motor restriction went into effect in 2010. Site visits by district staff and conversations with campground hosts revealed a low number of motorized boat users visiting one of the three boat launches, suggesting a high level of public knowledge about the closure and/or the effectiveness of posted signs near the Hwy 58 junction. Site visits also witnessed fewer large sailboats (equipped with motors) using Waldo Lake and moored for extensive periods, however there were a few instances in violation of the order. The district received very few complaints from visitors about use of motors, suggesting a high level of compliance, although no monitoring records were collected to calculate the degree of compliance. With implementation of the OAR prohibiting gas powered motors and floatplanes on Waldo Lake, as well as the Forest Order prohibiting use of chainsaws and generators in dispersed sites around Waldo Lake, setting conditions within the Semi-primitive non-motorized area around Waldo lake have improved.

Snowmobile intrusion continues to be an on-going problem in some semi-primitive non-motorized management areas on the Forest, as well as within the Three Sisters, Mount Jefferson, Waldo Lake and Mount Washington Wildernesses. Specific areas used for access include the Waldo Lake and Taylor Burn Roads, Rd 4220, and the Hwy 242 corridor.

Monitoring Questions 7: Recreation Visitor Use



Are estimated use levels for dispersed ROS settings and developed settings being realized?

Forest Plan recreation visitor use estimates are now largely based on the periodic National Visitor Use Monitoring program results.

Results for the Willamette National Forest survey, completed in 2008, are available online. A comparison of the number of visits on forests across the country with the first NVUM survey indicates overall visitation was down. However, on the Willamette National Forest, in developed sites and at ski areas where visitor use numbers are compiled from permittees, visitor use in 2011 was either stable or increased. The next NVUM surveying will be in 2012.



Monitoring Questions 8: Scenic Resources

Is the quality of the visual resource being provided as directed in the Forest Plan?

ACCOMPLISHMENTS

In general, the effects of individual landscape alterations are consistent in design and implementation with the scenic quality standards for each management area and the quality of the scenic resource is being provided as directed in the Forest Plan. The cumulative effects of all management activities that might physically alter the landscape are consistent with the visual quality objectives in the Forest Plan. The TOV has not been exceeded.



Monitoring Questions 10: Trails

Are trails and trail corridors being maintained and managed for a variety of uses and experiences consistent with public demand?

Project management activities are not consistent with S&Gs for trail management classes due to inadequate funding. Trail maintenance on much of the Forest has been primarily limited to removal of logs, trailside brushing and erosion structure maintenance. Heavy maintenance is not being done at a level to maintain trails consistent with Forest Plan standards on all trails. Trails that do receive maintenance are normally restricted to one visit a year, usually in the summer. Secure Rural Schools funding has allowed the Districts to accomplish some heavy maintenance projects on high use trails to improve them beyond minimum trail maintenance standards.

Trail maintenance is limited by funding. Volunteers contributed 14,000 hours of time in trail construction maintenance.

The forest has a very active volunteer program that is integral to maintaining trails across the forest. Strong partnerships exist between several districts and user groups across the forest, including the Greater Oakridge Area Trail Stewards (GOATS), Backcountry Horsemen, Pacific Crest Trail Association, Disciples of Dirt, High Cascade Volunteers, and others. The Middle Fork District is host to an annual 2-day volunteer training in May, primarily organized by partners; in 2011, there were over 100 participants at this training. Over the course of 2011, volunteers contributed over 14,000 hours of time on trails, maintaining over 212 miles of trail. In addition to the volunteer trail work, the forest also hosted Youth Conservation Crews and Northwest Youth Corps crews.

A range of trail opportunities is offered from hiker only nature trails, to motorized only, to multiple users sharing trails. Mountain bikers are restricted from riding on trails in Wilderness. In 2011, the forest began to lay the groundwork for a forestwide trails assessment by starting to update trail management objectives. This effort will continue into 2012 and beyond.

The forest completed several large trail projects. On the McKenzie River Ranger District, the trail crew constructed 50 foot turnpike on Kings Castle Trail, reconstructed approximately 2 miles of Hand Lake Trail that had been damaged by Scott Fire, and completed heavy tread maintenance on 6 miles of trail. On the McKenzie River National

ACCOMPLISHMENTS

Recreation Trail, staff constructed a 53' stringer bridge and repaired an area damaged by a slide. The Detroit Trail Crew replaced the 32' Maude Ck trail bridge on the Crescent Mtn Tr. and removed approximately 30 metal culverts from the Hunts Creek and the Minto Pass Trails. Middle Fork Trail Crews replaced two trail bridges, and a third bridge required a new pier footing, which required hauling in a yard of concrete. Salmon Creek Trail required a major reroute in challenging terrain, due to a flood that washed the bridge out.

Grant allows trail facilities improvements.

A Community Trails Plan was completed in 2009 by a trail committee comprised of representatives from the Westfir-Oakridge area. Greater Oakridge Area Trails Stewards, the local trails committee, achieved non-profit status and in partnership with IMBA was successful in 2009 in securing a \$400,000 grant from Congress for trails facilities improvements in the Westfir-Oakridge area; implementation of this grant began in 2011 and will continue into 2012.

The Forest has received Legacy funding that supported trail surveys and assessments in 2011 in the South Fork McKenzie and North Santiam watersheds. This effort developed and beta tested a data dictionary for field GPS units and a trail monitoring database. Using these tools, staff completed approximately 17 miles of trail surveys.



Monitoring Questions 11: Developed Recreation

Are developed recreation sites providing the variety of use opportunity designed to meet user's needs, interests, and equipment; and being maintained to a level expected and accepted by those using developed facilities?

Monitoring of developed recreation sites focuses on the standards, use and range of opportunities provided. Concessionaires operating under special use permits manage larger campgrounds and developed recreation sites on the Forest. In 2011, two new concessionaires operated most developed campgrounds on the forest. American Land and Leisure operates campgrounds on the Detroit, McKenzie River and Middle Fork Ranger Districts, and Linn County Parks and Recreation Department operates the Sweet Home Ranger District campgrounds. Despite the challenges of a very wet cold and long spring, and a major windstorm affecting some MFRD campgrounds, in both cases, the first year of operations were very successful, with visitors enjoying forest facilities..

Campgrounds are improved with funds paid at by visitors fees.

Some campgrounds, day use sites, and boat ramps are managed by the Forest under the Recreation Enhancement Act (REA) Program, which allows the Forest to retain site revenues to supplement allocated funding and manage the sites to higher standards expected and acceptable to visitors. Some of the more notable improvements to recreation sites funded by fees include a new metal stairway, new carpet and new appliances at the Warner Mountain Lookout; fabrication and installation of new information panels and kiosks at Iron Mountain Trailhead, Three Pools Day Use, and

ACCOMPLISHMENTS

Indigo Lake/June Lake trailhead; a new wildflower interpretive brochure for Iron Mountain; and installation of rail fencing at Big Meadows Horse Camp.

The use of sites is generally in a manner consistent with the site design and purpose. There are occasional problems with group size and or equipment exceeding the designed capacity of sites. These problems are long-term and are being partially addressed as the Forest implements the Recreation Site Facility Master Plan (RSFA), which included significant Recreation Site Improvement (RSI) projects. In 2011, the forest received RSI funding to replace the flush toilets at Big Lake Campground, drill and install a new accessible well at Trout Creek Campground, and make accessibility improvements at dozens of toilets across the forest.

CIP funding arrived in 2010 for planning and design of a new water system for the North Waldo/Islet campground complex. A test well was drilled in 2011, finding a reliable water source. However, implementation of the new distribution system is on hold in 2012 due to budget constraints.

The forest received grant funds from the Federal Highway Administration for improvements at Marion Forks area, Cascadia area, and the Frissell Boat Launch, which will occur over the next several years; in 2011, the forest began some preliminary planning for these projects, which will increase in 2012. The Marion Forks project will improve and protect a heavily impacted riparian area and improve the accessibility and safety of the site. The Cascadia project will help mitigate issues from trash dumping, vandalism, illegal OHV use, and noxious weeds while improving interpretive opportunities for visitors and restoring both a historic CCC-built wall and the Santiam Wagon Road. The Frissell Boat Launch will be relocated across the McKenzie River to improve road safety and improve the accessibility of the site.

Secure Rural Schools funding continues to support important projects that address deferred maintenance, including the replacement of vault toilets at many developed recreation sites.

Occasionally, demand exceeds site capacity. Generally the range of sites provided throughout the Forest is consistent with customer's preference and use trends; however, on occasion, demand exceeds site capacity (i.e. Detroit Lake, McKenzie River, and Fall Creek). The Recreation Site Facility Master Plan (RSFA) proposed in 2006 that the Forest continue to provide a range of sites and activities, with additional development on the Detroit Ranger District. Shady Dell Campground continued to be used as a staging area by the Northwest Youth Corp under special use permit on the Middle Fork Ranger District.

Monitoring Questions 12: Off-Road Vehicle Use



Are ORV opportunities providing a quality experience to the customers, ensuring their safety, and the safety of the general public? Are conflicts being minimized between users, with wildlife (and their habitat), and is resource damage being minimized – in areas that are suitable for each appropriate ORV use?

Trails and roads will be designated for OHV use.

The Forest completed and signed the Environmental Assessment for the implementation of the 2005 Travel Management Rule in 2009 and published Motor Vehicle Use Maps (MVUM) for distribution starting in summer 2010; the Detroit and McKenzie River MVUMs were updated in 2011, an “Errata Letter” was attached to the MFRD north MVUM, and the MFRD south MVUM continued to be distributed, but with a new datestamp. The maps indicate which roads and trails are designated as open to motor vehicle travel. All other roads, trails, and forest lands are closed to motor vehicle travel.

A decision for the Santiam Pass Recreation Area was made in 2008 which designates, constructs, and reconstructs roads and trails for motorized mixed use and OHV use, including staging areas, visitor information and “learner loops”. The first phase of the project was started in 2009 and continued into 2011. OHV managers installed a CXT toilet in the staging area, graded and graveled the lot, and designated parking slots in the treed area of the lot. Kiosk and interpretive panels have been constructed and await installation in 2012. Existing trails were groomed and a damaged road was repaired. A major accomplishment was the installation of the new trail markers and route numbers throughout the system, and a new map is in development. Patrols dispensed user education materials and information on a 7-day-a-week basis.

At the Huckleberry OHV area on the Middle Fork District, Fifty-five miles of trails were maintained and six miles of trails were constructed. A substantial shelter was constructed at the trailhead. The trail system was re-numbered on the ground to integrate the existing new trails (of 30 miles of planned) into the original trail system. A new map is being developed for release in 2012.

Detroit RD has designated the McCoy Creek Motorized Recreation Area for off-highway vehicle recreation. At this time the emphasis is on developing a staging area that will access system roads currently open to mixed use. Development will include parking, signing and mapping, installing a vault toilet at the lower staging area, additional road brushing, lane striping, and installation of a picnic shelter. One of the primary project drivers is the opportunity to draw recreational use to this financially distressed, but extremely scenic area via an existing road system that is currently open to motorized mixed use. These improvements are continuing and planning is underway to expand parking facilities within the area,

On the Forest, pockets of use show signs of resource damage, particularly around existing dispersed recreation sites and near adjacent private lands. Isolated incidences of mudding

occur throughout the forest. As part of the Respect the River Program, mudding education including signing and brochures has been developed.

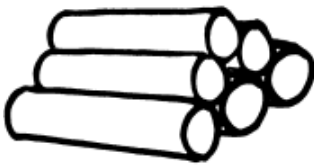
Timber



Monitoring Question 22: Timber Suitability

Has the suitable land base changed?

Suitable land is land managed for timber production on a regulated basis. Though more than 1.6 million acres are suitable for growing timber, such things as roads, water, poor conditions preventing adequate reforestation, and congressional reserved lands such as wilderness, prevent lands from being suitable for timber production on a regulated basis. Changes to the suitability of lands for timber production have not occurred since FY98.



Monitoring Question 23: Timber Program

Is the timber sale program quantity/ quality comparable to the planned levels?

Target accomplishment shifted from “volume offered” to “volume awarded” in FY’06. In FY’11 the Willamette NF assigned target was 67.4 mmbf. Total volume offered in FY’11 was 68.2 mmbf. Total volume awarded in FY’11 was 61.5 mmbf. The volume difference between offer and award is the result of 3 sales offered but receiving no bids. Total volume offered and total volume awarded amounts are all included in meeting our PSQ (111 mmbf) levels. FY’11 offer amounted to 61.4% of the PSQ with FY’11 award being 55.4% of PSQ.

The total 61.5 mmbf volume awarded included 60.1 mmbf of sawlog material offered through advertisement in the newspaper and 1.4 mmbf in products that could be converted and measured in board feet such as firewood, posts, poles, green biomass and so on. These “convertible” type products are often sold under permit without advertisement. Approximately 1% of the awarded volume came from salvage sales.

The majority of the timber harvesting program in the past few years, including FY 2011 has been in the general forest (MA 14) and matrix land allocations. However, since commercial thinning has become the predominant harvest method, timber sales have been used as a tool to achieve resource objectives in other land allocations such as riparian reserves and late successional reserves. In recent commercial thinning sales, up to 35% of the total acres thinned in a project area have been in parts of the riparian reserve.

Commercial thinning is the predominant silvicultural prescriptions being utilized. In order to introduce and develop stand structural and species diversity, 5 to 10% of the thinned acreage includes gaps ranging from 0.5 to 3 acres in size.

ACCOMPLISHMENTS

FW-196 States “Uphill falling shall be used in harvesting old growth and large sawtimber on slopes of 30% or greater, except where not operationally feasible or where in conflict with resource protection.”

Recent timber sales on the Willamette NF involve smaller, commercial thinning size trees. All of these sales have utilized FS-197 “Directional falling should be used where necessary to protect other resource values to the extent necessary to ensure a variety of resource protection. Directional falling (felling to lead) is a regular design element included in all contracts.



Monitoring Question 24: Silvicultural Practices

Are silvicultural practices outlined in Standard and Guidelines being implemented as planned?

Growth responses from intensive management are consistent with expectations in the Forest Plan. Genetically improved stock is being used as planned and will maintain or exceed the growth of natural seedlings.

Regeneration of harvest stands within 5 calendar years from harvest is mandated by the National Forest Management Act, and is tracked every year to assure compliance. There were 12 acres reported as being harvested using stand regeneration harvest method and planted in FY 2005. All of these 12 acres (100%) were reported as being certified as reforested. The data source for this information is the FACTS database and the VEGIS database. Stocking is being established and maintained at the recommended levels and within the required time. In 2010, 331 acres were planted.

Planned created openings are much smaller than the maximum limits, and is resulting in under representation of young seral forests across the landscape.

Timber Stand Improvement (TSI) accomplishments of thinning, release, pruning, and fertilization totaled 3,889 acres. Accomplishments are about one fifth of the amount predicted in the Forest plan. There is a significant backlog of plantations in need of thinning on the Forest, but there are few new regeneration acres, so the backlog is dwindling.

Monitoring of insect and disease activity on the forest is completed each year. There are endemic levels of fir engraver and Douglas-fir bark beetle at levels that are considered to be normal. Damage to trees from black bears continues at a variable rate, with some stand experiencing significant mortality.

Transportation for 2011



Monitoring Question 38: Transportation System

Is the transportation system meeting the planned resource objectives?

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 1990 Forest Plan. 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 1990 Forest Plan. No new road constructed occurred on the Forest in 2011 and only 12.1 miles of road reconstruction occurred (see table below). New road construction is far below estimation in the Forest Plan of 40 miles. Road reconstruction is 162 miles below the Forest Plan estimate of 174 miles. However, these lower numbers are in line with, and the result of, a much lower timber harvest than planned for in the 1990 Forest Plan.

Timber related road use and road maintenance budgets have fallen significantly during the last fifteen years. As a result this has reduced the need for new road construction. 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. Performing recurrent road maintenance is now emphasized more than new road construction and reconstruction.

Due to the fundamental changes to the timber harvest targets and drastically reduced road maintenance funding, the miles of road maintained for passenger cars is over 36% below the threshold of variability. Though far below the threshold, the lower miles of “passenger car” roads is more in line, and consistent with current and projected road management and budgetary trends. Roads formerly maintained for passenger cars are now maintained for motorized travel that is suitable for high clearance vehicles. This reflects an increased which is now over 13 % above the threshold of variability for roads suitable for high clearance vehicles.

ACCOMPLISHMENTS

The table below gives a snapshot of our current road system on the Forest.

STATUS OF THE FOREST'S TRANSPORTATION SYSTEM

Road Construction and Reconstruction		Miles of Road Removed	
<i>Miles of Road Constructed</i>	0	<i>Miles of Road Decommissioned</i>	1.1
<i>Miles of Road Reconstructed</i>	87.2		
Road Suitability (Miles)		Traffic Volumes	
<i>Roads Suitable for Passenger Cars</i>	552	Traffic volumes were not monitored in FY11	
<i>Roads Suitable for High Clearance Vehicles</i>	4,929		
<i>Closed Roads</i>	1,064		
<i>Total Miles</i>	6,545		

Though much of the road system is not at the levels predicted in the Forest Plan and the TOV in some cases has been exceeded, 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.

Social, Economic, and Budget

This section of the monitoring report describes the social and economic environment, which is affected by management on the Forest.

If the reader is interested in more information than what is provided in the following summary they may request the documents listed under Supplemental Information

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Summary Results

Detailed Expenditures

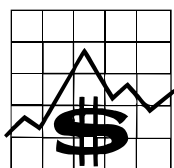
Forest Receipts

Payments to Counties

ECONOMIC & SOCIAL RESOURCES SUMMARY FINDINGS

Monitoring Question	Monitoring Activities	Monitoring Results	Supplemental Information
<i>41 - Economic & Social</i>	Review of economic reports, agency policies, and public contacts	Results OK	Economic and Social FY11 monitoring reports

Economic and Social Assumptions



Monitoring Question 41: Economic and Social Assumptions

Are economic and social assumptions, values, and projections valid?

The Forest monitors a wide variety of sources addressing general local economic and social trends. Key economic facts from the FY11 monitoring are presented in summary on the following page.

An additional objective of MQ 41 is to evaluate whether there has been significant changes in public attitudes, beliefs, or values or changes in National or Regional Direction. At times this can be gleaned from news releases, initiatives, plans, and laws passed over the course of 2011.

A majority of the news releases centered around fire and fuels management as well as incorporating the community into Forest restoration projects. The Chief signed a record

ACCOMPLISHMENTS

of decision assist fire managers to determine when and where to drop fire retardant. The new direction will help the Forest Service better protect water resources and certain plant and wildlife species on National Forest Lands when fighting wildfire. Efforts to include the community in forest restoration can be seen in many grants and establishment of the Community Forest and Open Space Conservation Program which encourages the creation of community forest and fosters rural economies.

Finally a new planning rule designed to replace the 1982 Planning Rule will keep the collaborative momentum going on what has been a remarkable open and transparent process for the Forest Service's fires planning rule in 30 years. More progress is expected the coming in 2012.

The Forest Service, the Willamette included, have historically been focused on water and timber but that focus has now broadened to include forest health, diversity, aesthetics, fire risks. These goals, though at times appear to be opposed, provide the Forest with opportunities to bring our constituents together through education and reflect changing societal values.

FISCAL YEAR 2011 FINAL EXPENDITURES

Description	FY11 ¹
<i>Facilities Capital Improvements & Maintenance</i>	\$1,329,631
<i>Flood Activities</i>	\$83,222
<i>Forest Products</i>	\$5,820,303
<i>General Administration</i>	\$ 3,710,114
<i>Inventory and Monitoring Activities</i>	\$298,197
<i>Knutson/Vandenburg Funds</i>	\$1,792,937
<i>Land Management Planning Activities</i>	\$43,080
<i>Land Ownership Management</i>	\$1,219,421
<i>Minerals and Geology Mgt</i>	\$368,286
<i>Payments to Counties</i>	\$2,265,697
<i>Recreation/Heritage/Wilderness Activities</i>	\$1,445,943
<i>Roads and Trails Improvements & Maintenance Activities</i>	\$4,288,049
<i>State and Private Forestry</i>	\$23,964
<i>Vegetation and Watershed Mgt</i>	\$1,025,279
<i>Wildland Fire Management / Fuels Treatment</i>	\$4,202,374
<i>Wildlife and Fisheries Habitat Mgt</i>	\$878,663
TOTAL	\$28,840,288

¹ Knutson/Vandenburg Funds are funds used for post harvesting improvement activities. Primary beneficiaries of these funds are Recreation, Watershed , Wildlife, and Fisheries Management

ACCOMPLISHMENTS

Summary of FY 2011 Forest Receipts and Payment to States.

Forest Receipts (FY 2011)	Payments to States (FY2011 ¹)	
\$5,876,397	\$15,466,076	
<i>Forest Plan estimated receipts are not longer calculated. It is quite clear the Forest's receipts are only a fraction of the Forest Plan estimate.</i>	County Breakdown	
	<i>Clackamas</i>	\$2,708
	<i>Douglas</i>	\$496,277
	<i>Jefferson</i>	\$2,091
	<i>Lane</i>	\$ 8,754,362
	<i>Linn</i>	\$5,159,758
	<i>Marion</i>	\$1,050,879

¹Based on Title I, Title II, Title III funds identified in Secure Rural Schools and Community Self-Determination Act of 2000.

Implementation Monitoring

MQ 1 could be paraphrased, “Did we do what we said we were going to do?” This is the definition of implementation monitoring and the focus of many of the monitoring activities that occur on the Forest. Various levels of interdisciplinary monitoring reviews were carried out in 2011 to focus specifically on compliance with the Forest Plan.

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IMPLEMENTATION MONITORING SUMMARY FINDINGS

Monitoring Question	Monitoring Activities	Monitoring Results	Supplemental Information
<i>Standards and Guidelines</i>			
1 - Implementation Monitoring	Environmental documentation and field reviews.	Results OK	Monitoring trip documentation

Standards & Guidelines



Monitoring Question 1: Standards & Guidelines

Are Forest Plan standards & guidelines being incorporated into project level planning and decisions?

A Forest Supervisor monitoring team visited all of the districts and monitored several projects in 2011. The results and findings of each monitoring trip were documented and used to generate communication between districts and forest personnel as well as contribute to the overall evaluation of the Forest Plan. Very often these trips also result in recommendations to the Supervisor’s Office (SO) for changes or clarifications to the Forest Plan standards and guidelines. The projects to be monitored may be from any resource program area. Criteria for projects are those under the current Forest Plan as amended by the NWFP standards and guidelines and those with a substantial amount of on-the-ground work accomplished.

Forest Plan Standards and Guidelines, Northwest Forest Plan direction, and overall consistency of projects to the general goals and objectives of the Forest Plan were reviewed. The documentation (NEPA analysis, decision documents, prescriptions) and

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the on the ground results were checked for compliance with the Forest Plan. The monitoring team consisted of the Forest Supervisor or, Deputy Forest Supervisor, SO Staff Officers, the Forest Interdisciplinary Team Leader, SO technical staff, District Rangers, and District staff.

PROJECTS MONITORED IN 2011

Ranger District	Activity Monitored
<i>Detroit</i>	Cleator Bend Stabilization/Habitat Improvement Project
<i>Sweet Home</i>	Rock Campground Restoration Project and Santiam Wagon Culvert Removal
<i>McKenzie River</i>	Bridge Thin EA, BT2 and Birdie Timber Sales
<i>Middle Fork</i>	Niner EA, Lookout and Salal Thin Timber Sales

Forest Supervisor Reviews

Detroit Ranger District

The monitoring team stated their primary objectives in monitoring this project included interest in consistency of project design and implementation and learning from future project implementation. Also of interest was a dialog on implementation experiences with public issues in order to improve the process for future work in meeting goals of the Forest and about process of planning to presale to contract implementation.

Cleator Bend Bank Stabilization project:: The purpose of the project was stream restoration, spawning habitat creation and restoration of the campground. Since the 1996 flood 25 feet of the Breitenbush stream bank width has been lost along 250 feet of the Cleator Bend campground. Main areas along the stream were focal points of erosion. An analogy was made of these erosion points as “Pac man” points. Approximately 300 logs and 250 boulders were placed in the stream; and tree tipping next to stream to stabilize the channel. Adding structure to the stream disperses stream energy.

With placement of large logs and boulders small gravel will be deposited behind these structures and provide fish spawning habitat. Large logs were removed from the Detroit Lake spring buildup and used for this project. Some logs were placed together to form barriers to reduce stream flow. Tree tipping of standing green trees, with root wads attached, next to streams was also done to slow the stream energy flow - resulting in the deposit of gravel in the slow water created. Willows were also planted to hold fine sediment along the stream and repopulate lost vegetation.

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In addition, stream slope or grade was reduced by the creation of Rosgen weirs. Large rocks were placed across the stream creating steps. These steps raised the grade of the stream and reduced stream energy. Single large logs were also used to create weirs. These weirs were placed at “Pac man” points or high erosion points of the stream channel.



With these different types of structures four stream channels were created where there used to be just one fast flowing channel. It is expected with these structures to add 30 to 50 years of gravel habitat for fish spawning. Some of these structures will change overtime or move. This can be either creating new structures down stream or adding nutrients to the stream. There are broader benefits created by this project - keeping the water cooler and retaining the water longer. In addition, a fish collection area is going to be developed downstream.

Some concern was expressed over potential damage to bridges downstream. Dave said log placement was designed to lessen potential damage. In the event of a flood it is expected some damage would occur regardless of this project. The 1996 flood was estimated to be a 35 year interval event.

The equipment used was a rubber tire skidder and a track excavator. The skidder provided more flexibility in moving rocks and logs.

Funding for this program was received from special project funds from the RO with the help of Johan who promoted the project. The project was initially developed by Dave for the Stimulus/Recovery program (ARRA) and was not funded.

The campground recreation site was converted to a group use from a single use site. Improvements were made along with the creek restoration. This is one of the smaller camp sites and generally these sites would be occupied by one group so the District thought this was a good fit. Campground conversion work included pull through drive ways so RV's could park easier. Fencing was installed to direct traffic flow to desired areas and away from others. A Kiosk will be made to talk about the restoration work done. This site can hold 72 people.



Breitenbush Hot Springs dispersed camping area:—The purpose of the review is to have an open discussion on potential solutions to manage use of the area.

There are safety and sanitary concerns. This dispersed camping area has no toilet facilities, yet it gets a lot of use and some large group camping on the weekends. People cross the Breitenbush River to use the undeveloped hot springs. They have felled trees or strung rope across the river to cross it. People also shoot guns. Law enforcement has been called numerous times for disturbances and visits the area regularly to have a presence to deter bad behavior. Litter is a big problem.



Cara gave a review of the history of the area. There has been long use of the area by native peoples, as evidenced by lithic scatter and traditional use history. John Breitenbush (bat eye) was the first of European heritage to reside in the area around 1840's. Around 1918 the original resort was developed on Forest Service ownership. At sometime after the resort failed and buildings were removed, some went upstream to the hot springs community on private land ownership. Now just concrete foundations remain of the pool area. Sanitation of the pools is sketchy; however, the pools are not stagnant but have free flow of water.

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The Recreation Staff Officer talked about other hot spring development on Forest. At the Terwilliger hot springs by Cougar Reservoir, use has improved now that it is a fee site. The undeveloped hot springs is managed by a concessionaire, cleaned regularly and sanitation provided. It is a day use area only with law enforcement patrols; however it is known to still have problems at night regardless of restrictions. McCredie hot springs is an unmanaged and undeveloped site along highway 58. There are similar issues about sanitation and some prostitution. The Forest is in the process of developing a plan to address and presently they are developing a redesign of the parking area.



A couple of options are available for management of the Breitenbush hot springs. The area could be converted to day use only or a full campground can be developed. It is important to talk to potential partners who may be interested. The tribes have been consulted and were invited out to review the area. There are no planning dollars now and if a proposal develops it must be sustainable. A future plan must also consider displacement of people who cause the problems. A possible solution may be in the out-year Short Devils timber sale planning. A portion of the project may include some restoration of the area or stewardship proposal.

At present litter is picked up by Forest Service personnel, YCC crews and some was paid for by Payco dollars.



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Sweet Home Ranger District

The monitoring team set forth the objectives of consistency in project design and implementation and learning for future projects. Other objective is open and honest communication and integration of resource participation.

Culvert Replacements on 204 road and Wagon Road: -The District Hydrologist led the group to culvert replacements on the 204 road and Wagon Road. The plastic culverts were replaced with natural fords using a small rubber track excavator. The intent was to restore the historical character for the recreational user's experience. Joel Starr of the Equestrian Trail group talked about his experience as a volunteer since 2000 and what the horse group wanted. They wanted to maintain access across these creeks and put in the rock fords after the culvert were removed.



At the first culvert removal access was available and slopes leading up to and away from creek crossing were contoured. However, Charlie said the stream gradient was not sustainable and there is a threat of wash out and head cutting. The rock ford constructed looked like a short term fix and would not withstand a heavy rain or minor flood event. Joel would like to put gravel or rock to make sturdier for horse traffic. May use this portion of road for Soda Joe timber sale access; if so would improve non Wagon road portion for timber sale haul.

The slope above and below the creek and road was seeded and mulched to prevent weeds. The invasive weed false brome was found in the area.

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A Civil Engineering Tech talked about 3 road storage levels: a, b, c (or low, moderate or high level of effort/cost, respectively). These culvert removals were “b” or moderate level, where you pull out most culverts but not the ones that are deeply incised and have a lot of fill and would incur a high cost. Level “c” removes all structures. Johan also talked about risk, these culvert removals were higher up the slope and if they did fail there is a long way to the Santiam River and potential effects would be less. Storage level “a” is just a blocking of the entrance of a road with a barrier to prevent use. There was also a discussion on writing new road management objectives, sustainable roads and how time consuming this could be to accomplish on a site specific scale.



Overall this project pulled 17 culverts with fire and recreation crews and volunteers. The cost was about \$5,000.

Crossed over the Wagon Road and further down stopped where there was a deep removal of a culvert. This culvert had a high risk of flooding down road and was in need of removal.

McKenzie River Ranger District

Objectives for this trip were consistency of project design and implementation, and learning for future project implementation.

Birdie Timber Sale (TS) Unit 62:—The District Planner reviewed stand data and silvicultural prescription and gave a handout. The land allocation is Adaptive Management Area. The purpose and need was to improve stand conditions. James wrote the prescription and it was implemented as prescribed to approximately 90 Trees per Acre (TPA). However, he thought that the thinning prescription was too light or conservative and would have to make a second entry in about 10 years. Not enough spacing between crowns of the residual trees was released to grow and crowns would soon close in.

The Assistant Fire Management Officer talked about the under burning prescription and gave out a handout. The objective was to keep mortality loss from burning under 10% and that objective was met. The spring underburn took 8 hours for 25 acres. It was a careful and slow process. The spring burn had little mop up. Fire had fixed plots to check mortality loss. There was no snag creation prescription but anticipated some creation from burning.

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St. John's Wort is considered a noxious weed; it was not conclusive that populations increased with fire. One population was burned over and another population was flagged and not burned. Both populations persisted but did not noticeably spread beyond their original area. A concerted effort was made to reduce the small population.

The unit was within Wildland Urban Interface (WUI) and was a priority when selection of units to underburn was determined. When selecting units to burn looked at size of trees that would remain, feasibility of implementation, and risk of fire escaping. Also cost was important and was a factor in determining how many units to burn. Mai Lin said in general the bigger the unit there was a cost savings; if greater than 50 acres than the cost was about \$200.00/ac. A Brush Disposal (BD) collection from a timber sale is done because of the timber sale created it; and usually has to be treated within one to three years.

Unit 68, Birdie TS: The monitoring review team walked into a 1 acre gap with 4 trees remaining as prescribed. Kurt talked about the prescription and the thinning adjacent to the gap. These gaps were designed to increase forage and species diversity. Brose was clearly noted on shrubs present. It's important to look at the plant association to determine what the shrubs would be but just as important to see if the big game is using the area.

The early seral created by the gap was good for birds, as well as big game. This was a second entry; the stand was previously thinned in 1995. Snags were created at that first entry and it was apparent that they were be used by birds, cavity excavators. In the Younger Stand Study bird use of created snags is also documented. At issue is that snag creation is enhancement not mitigation. It is enhancement because the project did not reduce snags, there we no existing snags in the managed stand that was reduced by the present treatment. Mitigation only applies to fixing a problem the present project creates.

When looking at early seral creation, what the FS can do is make high quality early seral habitat. On private land ownership the regeneration units are generally sprayed with herbicide to prevent shrub growth.



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The group talked about regeneration harvest of managed stands less than 80 years old. Need to be specific on what our objectives are. See Forest Plan S&G's – FW-182 on page IV-74. Looking at the landscape view is important and putting into context. If you are going to regen harvest you also should look at the whole range of possibilities that may fit for the analysis.

In gap creation may want to locate gaps at the outside of the riparian reserve or upland area to provide diversity of habitat structure and composition. Also it is important to not put gaps where noxious weeds can spread. When discussing canopy closure in an EA and saying an average of 40% is retained, it's important to disclose that it is an average of gaps and thinning across the unit.

Unit 43, Birdie TS: Kurt talked about the different thinning prescriptions in the riparian reserve (RR) and outside the RR. There was a no harvest buffer of 30 feet next to the intermittent creek. There was little difference between the buffer and the thinning retention in the RR. The District has since changed prescriptions and prescribed the same canopy retention for thinning inside and outside of the RR.

At that time of planning EA's there was confusion on the difference between canopy closure (a) and canopy cover (b). Hydrologists and fish biologists tend to think in terms of the view from a fish-eye lens, which incorporates a 180o view and measures canopy closure. Silviculturists and wildlife biologists consider canopy cover as a vertical measurement of the amount of canopy that would cover the ground. What's important to note is there is a big difference between the two retention values. What is the focus of your retention or resource you are retaining for? The problem associated with getting the two confused is that reporting a canopy cover value as the canopy closure value results in an overestimate of the actual change in canopy closure, subsequently exaggerating the potential negative effect on stream shade.

The Assistant Fire Management Officer also talked about underburning and this unit has yet to be burned. They plan on not digging hand line next to the RR buffer but allow fire to slowly back down to the buffer. This is more economically efficient and allows less site disturbance to mineral soils.

Middle Fork Ranger District

Monitoring objectives stated were consistency of project design and implementation. interest in planning for future maintenance of meadows; early seral habitat; and meadow restoration; and integration of resource participation.

Culvert Replacemet: - The Engineering Tech talked about the seven foot culvert replacement. The objectives were for fish passage, ability to withstand a 100 year flood

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event and to facilitate log haul operations. Design and implementation were in accordance with direction.

Salal Thin Unit 216: Two Timber Sale officers lead us to a temporary road that was in the process of being closed and scarified by a contractor with a backhoe. One of the key issues from the EA was soil compaction created by ground based logging and logging practices in the 1920's. Log haul at the time was by railroad and was some of the first logging on the District. Forest Plan Standards and Guidelines say detrimental soil conditions should not exceed 20%. The existing compaction was at 16%; after logging and with scarification soil compaction will be reduced to 14%.

A point of discussion was around not specifying equipment type but desired results. To reduce compaction scarification is required to a depth of 20 inches. Let the contractor decide equipment type.

Another issue was seeding of roads after scarification – a native seed mix should be used. Either the Forest Service should provide the seed or the seed type specified in the contract seeds to be done.

The Engineering Tech also discussed the thinning of designate by description (DxD) and dominant tree release (DTR) gaps. The DxD was to approximately 26 foot spacing of residual trees and the DTR cut generally all the smaller trees to 60 foot from the biggest tree. The treatment adhered to prescription but what can be done better next time is the placement of the gaps. The gaps should be place farther away from the road so it's not a shooting gallery for hunters. Deer like the new growth in the gaps.

Archeological Tech then talked about the remaining railroad grade in the area and that it is considered historic.

Huckleberry Flats OHV Area:

The Hydrological Technician gave the group a background of the development, expansion and funding source for OHV area. There is a lot of use during the spring and fall. The one way travel is good for families.

The Niner EA mitigation for logging operations around OHV trails would be restricted to weekdays to reduce impacts to OHV users during the weekends. This restriction was



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in effect; however, it was easier to implement the closure of certain trails until logging operations for that area were completed. Five timber sales were operating at the same time which increased the complexity of management coordination. The Hydrological Technician and the timber sale officers worked closely for successful and safe project implementation.

Trail clean-up of logging slash was done concurrently to ensure OHV trails would be usable as soon as possible.

Lookout Thin Unit 219: Non-fish bearing permanently flowing and intermittent streams retain 50 foot wide no harvest zones on each side of the banks. Retention confirmed.

Thin to about 28 foot spacing (DxD) with DTR cut 60' radius. Hauled tops for total log utilization. Downhill yarded 600 feet with little residual damage; yarded uphill for top part of unit. Retained an average of 40% canopy cover, includes gaps and skips.



For wildlife prescription dispersal was maintained. The prescription is 2 snags per acre. Will wait to take advantage of natural occurrence (blow-down) and if needed will create from top 25% of large green trees. There was a background discussion from Dick and Joe about dead and down standards and guidelines from the Forest Plan, NW Forest Plan and Decaid.

Unit 217: Three DTR were grouped to create large opening, a little more than $\frac{3}{4}$ of an acre. The gaps provide short term forage, and bird habitat. If Rhody takes off may not be good deer habitat. Gap placement must factor in plant associations.

Temporary Bridge: A temporary bridge was bought by the Forest for use to access a unit. With the bridge the sale cost was reduced, otherwise the unit would have had to be helicopter logged at a greater expense. The bridge was built in a half day with the use of a crane. The slope to and from the creek will be re-contoured upon completion of the project. This bridge will become available for the Forest when the project is complete and will be stored at Flat Creek. This temporary bridge would be useful in case of storm damage to existing bridges as well as other timber sales.

Accomplishments

The following table compares the actual accomplishment of selected Forest Plan objectives during the fiscal year 2010 (FY10), October 2009 through September 2010) with the predictions in the Forest Plan (Chapter IV, pages IV-10 to IV-12). Also shown are the cumulative outputs and accomplishments since the Plan was implemented. The cumulative results are expressed as average annual. This provides the closest comparison to the Forest Plan averages, which are based on a 10-year planning period.

Outputs may vary annually for many reasons including year-to-year scheduling decisions, market conditions, budget appropriations, and even weather conditions. Thus, comparison of a single year may not provide enough information for an adequate evaluation. As we continue to monitor over several years, trends or averages of accomplishments will provide a better basis for evaluation.

The Northwest Forest Plan was the basis for significant modifications to land allocations and to Standards and Guidelines. With these changes coupled with declining budgets, notable differences between Forest Plan projections and subsequent accomplishments are evident. The following table (Summary of Program Accomplishments) reflects adjustments to the Forest Plan projections for timber related activities; however, no other projections were altered.

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Summary of Program Accomplishments

Output or Activity	Units	Projected Forest Plan Level	FY 2011 Accomplishment		Cumulative Avg. Accomplishment ¹	
			Units	%	Units	%
RECREATION AND WILDERNESS						
National Forest Visits ²	Visits	--	1,360,400	Projected recreation estimates made in the Forest Plan no longer apply. Methods and units for measuring recreation has have change substantially. The units reported represent 2008. Next reporting year 2012.		
Site Visits ²	Visits	--	1,656,600			
Wilderness Recreation Use ²	Visits	--	134,700			
Trail Construction/Reconstruction	Miles	78.0	4.0	Detail information will be found in the recreation section. Monitoring begins on page 44 and continues through page 55.		
Developed Recreation Construction	PAOT	327.0	0.0			
Developed Recreation Reconstruction	PAOT	844.0	75			
TIMBER MANAGEMENT						
Timber Sale Program	MMBF	136.0	61.5.9	51%	59.9	50%
Timber Harvest Treatments						
Regeneration Harvest	Acres	3,144.0	170	5%	215	7%
Commercial Thins	Acres	2,808.0	2,392	85%	1538.8	55%
Partial Harvest	Acres	--	97	--	697.5	--
Other	Acres	--	6	--	348.2	--
Timber Stand Improvement	Acres	18,100.0	3889	21%	8,745.5	48%
Reforestation	Acres	3,144.0	331.0	4%	1,347.6	43%
Fuel (Slash) Treatment	Acres	3,144.0	1,830.0	58%	1920.6	61%
ROAD MANAGEMENT						
Road Construction	Miles	40.0	0.0	0%	3.2	8%
Road Reconstruction	Miles	174.0	87.2	7%	113.8	65%
Roads Closed	Miles	890.0	978.0	120%	903.8	102%
Roads Suitable for Passenger Car	Miles	1,580.0	555.0	35%	1373.8	87%
Roads Suitable for High Clearance Vehicles	Miles	4,530.0	5,005.0	109%	4888.0	108%
FISH / WATER / WILDLIFE / LIVESTOCK						
Watershed Improvement	Acres	533.0	2,000	420%	534.0	124%
Anadromous/Inland Fish Habitat Improvements	Miles	12.0	210	390%	24.7	233%
Wildlife Habitat Improvements	Structures	451.0	—	Projected wildlife estimates are no longer measured in structures but in acres. For tracking purposes we will report in acres.		
	Acres	---	23,680			
Livestock Grazing (AUMs)	AUMs	200.0	0	0%	--	28%

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¹ Cumulative Average Accomplishment is reflective of the average since the Forest Plan was implemented. Timber management numbers are an exception. The accomplishments are measured since the Northwest Forest Plan was adopted. These accomplishments' can only be considered a general trend. The methods and units used to assess and report accomplishments' has changed over time.

² In response to the need for accurate recreation use data, the National Visitor Use Monitoring project was developed at the National level and is being implemented by all National Forests. This process provides a consistent methodology for scientifically credible, repeatable, reliable, and defensible set of recreation use data.

Forest Plan Amendments

Your Forest Plan is a dynamic document that can be amended in response to:

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

We frequently learn about the need for amendments through monitoring.

Since first published in the summer of 1990, there have been 43 non-significant amendments to the Willamette National Forest Plan. In addition, during 1994 the Northwest Forest Plan was completed and amended all Forest Plans in the range of the Northern Spotted Owl including this Forest. Because all Forest Plans were amended at the Regional level, the amendment did not receive a number.

The following summarizes the amendments to the Forest Plan:

Forest Plan Amendments

Amendment	Implementation Date	Type of Change
1	10/30/1990	Vacates Regional Guide for spotted owls. (Decision by Assistant Secretary of Agriculture John Evans; Federal Register Notice published 10/03/1990.)
2	12/10/1990	Allows snowmobile use in certain parts of Santiam Pass area.
3	8/5/1991	Corrects errors and omissions in Forest Plan (errata).
4	8/5/1991	Requires roadside brush management methods be consistent with scenic resource needs and allows machine mowing.
5	8/5/1991	Corrects mapping error in boundary of Diamond Peak Wilderness.
6	8/5/1991	Changes and clarifies direction about retention of downed wood to better meet functional and operational objectives.
7	3/22/1992	Established Management Plan for the McKenzie Wild and Scenic River; places the river in a new Management Area(MA), MA-6d; and establishes a new Special Interest Area Carmen Reservoir.

Forest Plan Amendments

Amendment	Implementation Date	Type of Change
8	3/22/1992	Establishes Management Plan for the North Fork of the Middle Fork of the Willamette River Wild and Scenic River; places the river in a new Management Area, MA-6e; and changes the scenic allocation of about 29,000 acres of viewshed near the river from Modification Middleground to Partial Retention Middleground.
9	2/20/1992	Changes official Forest Plan Map from manually drafted management areas on mylar USGS quadrangles to a digital version on Forest's Geographic Information System.
10	3/14/1992	Changes about 67 acres in Spring Butte area (Rigdon) from General Forest (MA-14a) to Special Habitat Area (MA-9d).
11	3/14/1992	Changes about 65 acres in Beaver Marsh area (Rigdon) from Special Interest Area (MA-5a) to Special Habitat Area (MA-9d).
12	4/4/1992	Adds Habitat Conservation Areas (HCAs) for northern spotted owl and adopts the standards and guidelines recommended by the interagency Scientific Committee. (Decision by Assistant Secretary of Agriculture James R. Moseley.)
13	7/29/1992	Makes initial allocation of about 640 acres of land acquired by land exchange not far from the South Pyramid area on the Sweet Home Ranger District to General Forest (MA-14a).
14	7/29/1992	Changes about 51 acres in the Long Ranch area, Sweet Home Ranger District, from Dispersed Recreation - lakeside Setting (MA-10f) to Special Habitat Area (MA-9d).
15	7/6/1992	Adds standard and guideline MA-1-20a to clarify that the visual quality objective for wilderness is Preservation, and deletes FW-059.
16	7/29/1992	Establishes new Management Area, Integrated Research Site (MA-3b) to support research on long-term site productivity on about 1,500 acres on Blue River Ranger District, and moves a pileated woodpecker site within the area. Also, relabels the H.J. Andrews Experimental Forest as MA-3a.
17	2/17/1993	Extends deferment of timber harvest and road construction in the Opal Creek area for up to an additional two years to allow time for resolution of various issues surrounding management of the area, including decision about how the Forest Service will meet Recovery Plan objectives for the northern spotted owl.
18	2/17/1993	Clarifies direction in Forest-wide standard and guideline FW-018 to provide more site-specific and objectives-based analysis for placement and remedial actions associated with dispersed campsites.
19	6/2/1993	Relocates about 1,100 feet of Bornite Brook and 900 feet of Vanishing Creek, and by so doing interchanges the actual location of affected lands between MA-14a and MA-15. Upon reclamation of the bornite project's tailings impoundment, creates about 5 acres of wetlands converting that acreage from MA-14a to MA-15.

Forest Plan Amendments

Amendment	Implementation Date	Type of Change
20	5/17/1993	Adds S&G to require an integrated management approach for weed management. After identification, noxious weed sites should be analyzed for the most effective control methods, based on site-specific conditions.
21	6/23/1993	Makes initial allocation of 123 acres acquired through land exchange on the Blue River RD, 59 acres allocated to MA-5A (Gold Hill SIA); 64 acres allocated to MA-11d near Blue River Reservoir.
22	11/24/1993	Allows temporary reduction in availability of elk cover in Mill Creek and Anderson Creek High Emphasis areas (McKenzie RD) to allow stand management practices which will accelerate the development of high quality cover.
23	1/5/1994	Establishes the Forest's Special Forest Products Management Plan, including implementing direction through several new Forest-wide S&Gs.
	5/20/1994	Establishes land allocations and S&Gs as described in the Record of Decision for Amendments to the Forest Service and Bureau of Land Management management plans.
24	9/29/1994	Changes 1/2-acre in the Westfir area from Scenic-Partial Retention (MA-11c) to Special Use-Permits (MA-13a).
25	5/26/1995	Modifies the S&Gs for riparian reserves, wildlife tree provisions, and fueling loadings in MA-3b and AMA Long-Term Ecosystem Productivity project. This was a nonsignificant amendment to the Forest Plan.
26	5/17/1995	Modifies the S&Gs for visual objectives, big-game management, and the retention of large woody material. This was a nonsignificant amendment to the Forest Plan.
27	6/22/1995	Designates approximately 110 acres as MA-9d, Special Wildlife Habitat, in the Heart Planning Area on the Oakridge RD.
28	11/29/1995	Designates the electronic site as a Special-Use-Permits area (MA-13a). Prior to this decision the site was located within Scenic-Modification Middleground (MA-11a). For specifics see Santiam Cellular Environmental Assessment and Decision Notice.
29	1/12/1996	Expand the current Special-Use-Permit area (MA-12b) from 732 acres to 802 acres. Master Plan provides for improvements to the alpine ski facility, as well as adding other year-round recreational opportunities. For specifics see the Hoodoo Master Plan FSEIS and ROD.
30	4/17/1996	Within the Browder Cat timber sale boundary, decreases riparian reserve widths to 50 feet for both sides on four intermittent streams within and adjacent to harvest units and establishes riparian reserves of 175 feet for both sides on two perennial non-fish bearing streams adjacent to a proposed unit.
31	5/15/1996	Established the Rigdon Point RNA.

Forest Plan Amendments

Amendment	Implementation Date	Type of Change
32	9/4/1996	Decreases the interim Riparian Reserve widths 21 acres for Class IV streams and 5 acres for Class III within the Augusta Timber Sale Planning area located in South Fork McKenzie Tier 1 Key Watershed.
33	1/23/1997	Assigns a management area to recently acquired land in the following way: 13 acres to McKenzie River Wild and Scenic River corridor (MA 6d), 11 acres to Scenic Partial Retention/Middleground (MA 11c) and .25 acres to Special Interest Area (MA 5a).
34	1/23/1998	Changes approximately 1,900 acres of land from Scenic Modification/Middleground (MA 11a) to General Forest (MA 14a) and removes 275 acres of inventoried roadless area on the Middle Fork Ranger District.
35	5/17/1997	Temporarily reduced winter range cover for elk in a high elk emphasis area below the 0.5 Habitat Effectiveness rating required by S&G FW-149 in the Robinson-Scott project area.
36	7/8/1997	Establishes new S&Gs for four sensitive plant species; Gorman's aster, <i>Aster gormanii</i> ; Common adders tongue, <i>Ophioglossum pusillum</i> ; selected populations of tall bugbane, <i>Cimicifuga elata</i> ; and selected populations of Umpqua swertia, <i>Fraseran umpquaensis</i> .
37	5/19/1997	Assigns initial allocations for about 2,180 acres of acquired lands located on Detroit and Sweet Home Ranger Districts.
38	1/21/1998	Changes management emphasis to provide for a proposed action to build a replica fire lookout station museum on the Lowell Ranger District.
39	6/1/1998	Establishes two new communication sites on the Sweet Home Ranger District. The development involves less than 1/4 acre.
40	7/13/1998	Establishes the 2,877 acre Torrey-Charlton Research Natural Area (RNA). The RNA spans over both the Willamette and Deschutes National Forests.
41	8/24/1998	Establishes two new communication sites on the Detroit Ranger District. The development involves less than 1/4 acre.
42	8/30/1999	Allows the Forest to continue a program of noxious weed treatment based on the type of infection.
43	2/15/2000	Changes approximately 1,060 acres of MA 14a (General Forest) to MA 9b (Pileated Woodpecker habitat). Also a slight modification of MA 10e (Dispersed recreation) with no net change in acreage.
44	12/21/2001	Established the Walldo Lake Management Plan which addressed management issues in and around the lake. This decision has since been rescinded.
45 ¹	7/1/2002	Establishes Opal Creek Scenic Recreation Area as Management Area 2C and includes goals, objectives, and Standard & Guidelines. ¹ This Amendment 45 was inadvertently missed causing two amendments to be labeled Amendment 45.

Forest Plan Amendments

Amendment	Implementation Date	Type of Change
45	6/16/2004	Thins 5.2mmbf on approximately 491 acres within management areas LSR and AMA. Three units are within Three Creek Old-Growth Grove requiring a non-significant Forest Plan amendment.
46	8/22/2006	Exempted the project from strict compliance with five specific Forest Plan standards and guidelines relating to the amount of even-aged harvest and size of harvest units within trail corridors and scenic allocations.
47	4/16/2007	Waldo Lake Managing Recreation Use – Phased in a prohibition internal combustion boat motors on Waldo Lake and the use of internal combustion engines (chain saws, generators, etc.) in the dispersed, nonmotorized management area around the lake.
48	6/25/2007	Updated the Forest Plan direction concerning the prevention and control of invasive plants to be consistent with the Region 6 USFS ROD for Preventing and Managing Invasive Plants.
49	8/31/2007	Huckleberry Flats OHV Trail Expansion - Changed the designation of the Huckleberry BGEA (Big Game Emphasis Area) from Medium Emphasis to Low Emphasis and changed the designation of the adjoining South Christy BGEA from Medium Emphasis to High Emphasis.
49	10/22/2008	There are two parts to this amendment. First an implementation guide was not created for the Santiam Wagon Road. Second Standard and Guideline MA-10b-04 as changed to limited travel of all wheeled motorized vehicles to only designated trails and/or roads.
50	4/18/2008	Forest Plan Amendment #50 for Bridge Thin was required because we proposed work in the McKenzie River SIA, but had no Implementation Guide completed, which is required under the Forest Plan.
51	9/17/2009	Changed the location of MA9c- marten habitat from its current location. The new location is of higher quality habitat fuel reduction treatments could also take place.
52	10/14/2009	Travel Management Rule Amendment prohibits motorized travel off of a designated system travel routes in all Management Areas.
53	12/15/2010	Expanded the Gold Lake RNA to 463 acres. The original RNA did not incorporate the key wetland system.

Forest Plan Updates

Forest Plan Amendments (discussed above) change decisions made by the Forest Plan, consequently, they also require environmental analysis under the National Environmental Policy Act (NEPA). From time to time other changes to the Forest Plan are needed which are not intended to affect earlier decisions or Plan objectives. Examples of such changes include corrections; clarification of intent; changes to monitoring questions; and refinements of management area boundaries to match management direction with site-specific resource characteristics at the margin. We call these types of changes “Updates.” Since they do not change any Plan decision, they do not require NEPA analysis. F

There have been eight updates to the Forest Plan:

Forest Plan Updates

Update	Implementation Date	Type of Change
1	7/6/1993	Makes two minor management area boundary adjustments on the Oakridge Ranger District (RD). Two acres were changed from MA-6e to MA-9d to correct a boundary line running through a pond. Two hundred sixteen acres were changes from MA-11c to MA-14a so management for visual sensitivity would better match actual topographic characteristics.
2	10/18/1993	Clarifies the Forest-wide S&Gs for prescribed fire in nonwilderness. Accomplishes this by deleting FW-248 through FW-252 and substituting in their place rewritten FW-248 through FW-250. The changed S&Gs better reflect management intent to conduct objectives-based fuels analysis considering a range of resource protection and enhancement needs appropriate to site-specific conditions.
3	10/18/1993	Updates and reprints the Forest’s Monitoring Tables from Chapter V of the Forest Plan. Eliminates duplication, improves clarity, and refines data, and analysis requirements to better address monitoring concerns.

Forest Plan Updates

Update	Implementation Date	Type of Change
4	10/17/1994	Special Forest Products (SFP) Table IV-32a shows a type of collection allowed by management area. To clarify that the exclusion of commercial SFP collection applies only to the large, mapped Late-Successional Reserves (LSR) and not to all of the owl activity centers that are now 100-acres LSRs.
5	12/15/1995	Updates pertaining to the role of natural fires in Wilderness. Insures direction for prescribed natural fire is consistent with Wilderness policy through adjustments to the Forest Management Goals, Desired Future Condition, Forest-wide S&Gs, Management Area prescriptions, and Monitoring Questions.
6	1/23/1997	Updates to the Forest Plan Map of Record with changes to Swift Creek (MA 10f); corrections to 100 acre Late Successional Reserves (MA 16b), an AMA designation correction (MA 11f to MA 17), and a Hoodoo Master Plan boundary correction (MA 12b).
7	8/31/1998	Updates the Forest Plan Map of Record with refinements to the LSR222 boundary, establishment of MA 13B for the Middle Fork Ranger Station, the incorporation of Pileated Woodpecker and Marten areas, changes to 7 owl cores on the McKenzie RD and one on the Lowell Ranger District, the location of the already established Huckleberry Lookout (MA 13b) onto the Map of Record, the assignment of management allocations to newly acquired private land, refinements to the boundary of the McKenzie work center.
8	4/3/2000	Updates the Forest Plan Map of Record with RNA boundary refinements, the creation of Ma 1 for Opal Creek Wilderness and MA 2C for Opal Creek Scenic Area; an update that finalizes the boundary of the North Fork of the Middle Fork Wild and Scenic River, small refinements of the Forestwide wilderness boundaries, an LMP layer adjustment to reflect private land changes, adjustments to the boundary of Hills Creek LSR to allow scenic enhancement activities, and the creation of a MA 6b for the Elkhorn Wild and Scenic River.

Forest Plan Updates

Update	Implementation Date	Type of Change
9	4/9/2001	Documents the change of Inventoried Roadless Area maps from paper copies to an electronic Geographic Information system layer in the Forest Planning records.
10	10/17/2002	Updates the Forest Plan Map of Record with a Guistina Land Exchange of 173 acres for 237 acres; correct Shadow Bay campground from 12a to a 12b; vertical integration of administrative boundaries; update with the Finberry Timber Sale, correct the Three Creek RNA boundary; change land allocation from 11c to 13a at Carmen Air Quality Monitoring Site; reflect the Drury Land Purchase of approximately 28 acres; add names of special features into the layer, change an allocation from 14a to 12a on Timber Butte Lookout; and finally add the boundaries of the seed orchards.
11	6/21/2006	Updates to the Forest Plan Map of Record. The updates included labeling errors to Opal Creek Wilderness and to Hills Creek Reservoir. Two other updates included refining the boundaries to 100 acre LSRs in the Blowout Thin EA and correcting a previous error in a Bald Eagle Management Area across from Hills Creek Reservoir. None of the updates resulting in significant change nor was a result of a change in direction. A final change to added several Bald Eagle Management Areas to the Map of Record was requested. No additional areas were added because no NEPA documentation supporting the areas was available.
12	5/19/2008	Updates the name of our elk emphasis' area from "Old Squaw" to "Latiwi". No boundary changes
13	9/5/2008	Adds the McKenzie Bridge Airstrip as a Management Area 13b.
14	9/17/2009	The updates stem from corrections to boundaries and from labelling errors. Updates included one 100 acre LSR, the Federal Highway Administration Easement, Hills Creek Reservoir, private land acquisition, Flat Creek warehouse, AMA Research Plots, Olallie Creek RNA, and a Pine Marten change documented in Amendent 51. A map of the changes are available.

List of Contributors

The principal contributors to the 2010 Monitoring and Evaluation Report are listed below. Please contact one of us if you have questions or want further information about the reported results.

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