United States
Department of
Agriculture
Forest
Service

**Pacific
Northwest
Region**

# Monitoring and Evaluation Report

## Willamette National Forest

### Fiscal Year 2008

*Mt Jefferson Wilderness,*
*Willamette National Forest*

June 2009

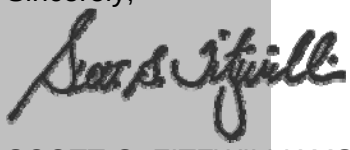
Welcome to the 2008 Willamette National Forest annual Monitoring and Evaluation report. This is our 18th year implementing the 1990 Willamette National Forest Plan, and this report is intended to give you an update on the services and products we provide. Our professionals monitor a wide variety of forest resources and have summarized their findings for your review.

Recently the Forest Supervisor, Dallas Emch, retired after 33 years with the Forest Service. I would like to introduce myself. I have been the Deputy Forest Supervisor on the Willamette for 3 years and will keep the forest running until a new Forest Supervisor is chosen. My focus will continue to be on streamlining our internal processes and organization so that we can most efficiently and effectively produce products and services.

My staff and I will also continue to emphasize working with partners – these dedicated individuals, groups, agencies and organizations are integral to our success. I believe that restoring and maintaining the health of our ecosystems depends on our ability to work together to share ideas, costs and solutions. Specifically, I'm proud of the action on the part of our geologists and other personnel when in January 2008 a massive 60-acre slide occurred blocking rail transport 11 miles south of Oakridge, OR. The Union Pacific Railroad reopened the freight transportation in May 2008.

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,



SCOTT G. FITZWILLIAMS
Acting Forest Supervisor
Willamette National Forest

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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, that 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. A Forest Plan revision scheduled to begin around 2011 will alter predicted outputs to a level probable under the Northwest Forest Plan. Where the TOV no longer provides useful information, a narrative and data will still be provided.

## 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.

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# 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 FY08 monitoring 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.

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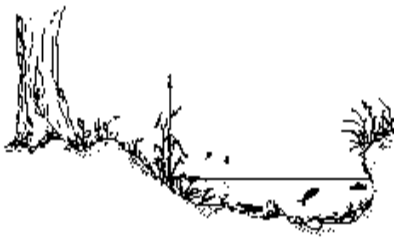
Summary Results
Water Quality
Soil Productivity
Air Quality
Fire

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

| Monitoring Question | Monitoring Activities | Monitoring Results | Supplemental Information |
|---|---|---|---|
| ***Water Quality*** | | | |
| 25 Water temperature | Water sampling | Results OK | Water quality FY08 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 | |
| ***Soil Productivity*** | | | |
| 32 Soils, mass movement | Onsite visitis | Results OK | Soil FY08 monitoring report |
| 33 Soil productivity, mass movement | Routine monitoring | Results OK | Water quality FY08 monitoring report |
| 34 Soil productivity | Site visits and implementation monitoring | Results OK | |
| ***Air quality*** | | | |
| 35 Air quality | Reported smoke intrusions, lichen surveys | Results OK | Fire Management and Lichen FY08 monitoring reports and |
| ***Fire*** | | | |
| 36 Fire protection | District reports | Results OK | Fire Management FY08 monitoring report |
| 37 Fuels treatment | Forest report | Results OK | |

# 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?*

The Forest measured summer water temperature at 87 sites during 2008. About one half of these monitoring sites were on streams listed as water quality impaired for temperature under section 303(d) of the Clean Water Act (see Table below). The other half included monitoring related to stream habitat surveys, and specific forest management or restoration projects associated with species listed under the Endangered Species Act.

Of the 87 sites measured for temperature in the summer/fall of 2008, 44 sites showed a 7-day average maximum temperature exceeding salmon and trout rearing and migration standards (16-18o C), the core cold water habitat standard (16oC) or the bull trout spawning and rearing standard (12oC) 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.

Number of summer water temperature sites successfully monitored on the Willamette National Forest, summer 2008.

| Sub-basin | Total # of Sites Successfully Monitored | # of 303(d) Listed Streams Monitored | # of Sites Exceeding Standards | # of Sites Meeting Standards |
|---|---|---|---|---|
| North Santiam Sub-basin | 16 | 11 | 1 | 15 |
| South Santiam Sub-basin | 17 | 10 | 11 | 6 |
| McKenzie River Sub-basin | 37 | 10 | 17 | 20 |
| Middle Fork Willamette Sub-basin | 17 | 17 | 14 | 3 |
| Totals | 87 | 48 | 44 | 34 |

In October, 2006, based on both ODEQ and Forest Service water temperature data collected on national forest lands in past years, ODEQ issued the Willamette Total Maximum Daily Load (TMDL) for point and non-point sources of pollutants in the Willamette Basin. This TMDL focused primarily on water temperature, and analyzed shade as a surrogate for water temperature. As a Designated Management Agency required by law to meet requirements of the Willamette TMDL, the Willamette National Forest 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 and Middle Fork Willamette Sub-basins (USDA Forest Service, 2008)1. 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. 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.

Monitoring Question 26 is also concerned with water quality as measured by turbidity levels. Forest personnel rely heavily on real-time data provided by USGS gauging stations across the Forest. Also, aquatics personnel do project specific monitoring of turbidity where sediment is an issue. One example includes monitoring that took place in 2008 as part of the Jim's Creek Oak Savannah Habitat Restoration project in the Upper Middle Fork Willamette River. As part of this habitat restoration, conifers dominating the site will be cut to enhance existing oak vegetation. Consultation with National Marine Fisheries Service required the Forest to monitor turbidity in adjacent streams, both pre- and post-treatment. In 2008, sites above and below treatment areas were monitored with pumping samplers during discrete time periods to establish baseline turbidity readings during both summer low flows and seasonal storms. Concurrently, Oregon State University is conducting research on sediment movement from hill slopes before and after harvest and prescribed fire treatments at this site. This data will be used to inform future management decisions at similar restoration sites.

Personnel on the Santiam River Zone at the north end of the Forest maintain close communication with municipalities in the North Santiam Sub-basin. A group known as the North Santiam Water Users meets quarterly and has organized an emergency response protocol for natural events that have potential to affect water quality. For example, USGS websites are tracked during winter storms, and when turbidity in specific rivers and reservoirs rises to levels that may affect drinking water, Forest personnel do field reconnaissance to find the source of this turbidity and report back to the group's members. This group includes officials from the City of Salem who treat waters flowing from National Forest lands as a source of drinking water for residents of Salem, Oregon.

Monitoring Questions 27: Water Quality: Peak Flows

*Are management practices causing changes in stream flows?*

No new monitoring was conducted in 2008 for stream flow. 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 timber sales using the Aggregate Recovery Percent methodology. In each case, this modeling showed that peak flows would not be deleteriously affected by young stand thinning.

Monitoring Questions 30: Water Quality: Lakes

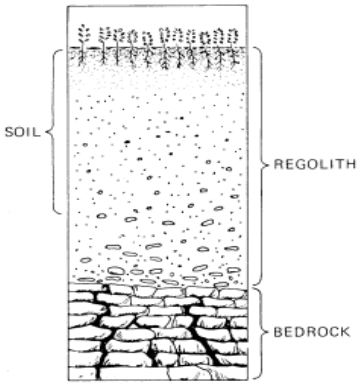
Lake monitoring for the Forest in 2008 included monitoring of key chemical and biological properties of Waldo Lake. High use recreation areas on several reservoirs and lakes on the Forest were also monitored for the presence of high concentrations of potentially toxic blue-green algae.

The Willamette National Forest contracted with Cascade Research Group to perform three monitoring trips to Waldo Lake in 2008 as part of the long-term monitoring program for the lake. Chemical and biological samples and data were collected on three dates: July 27, August 25, and September 28. In addition, under an agreement with Portland State University, lake water temperature data was collected from instruments that recorded temperatures at various depths from two locations. This information will be used to develop and calibrate a model of the thermal characteristics of the lake. Forest personnel continued to monitor lake outflow and weather data to inform provide the development of a water quality model and completion of the water balance and hydrodynamic models.

Monitoring visits were made primarily to developed recreation sites on water bodies that had the potential to have blooms of toxic blue-green algae. Site visits were made to approximately 25 locations on Detroit, Marion, Daily, Gordon, Cougar, Blue River, Hills Creek, and Lookout Point Lakes. Trailheads, swimming areas and boat ramps were posted with educational information about the health hazards of toxic algal blooms and how to identify them. As a result of this monitoring and in cooperation with the Oregon Department of Human Services (ODHS), a public health advisory was issued on Hills Creek Reservoir in 2008. Monitoring of sites on this waterbody indicated high concentrations of a potentially toxic blue-green algae (Anabaena flos-aquae) at levels above health base thresholds established by ODHS. The health advisory was in effect for a period of 62 days between May 15th and July 16th, 2008.

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



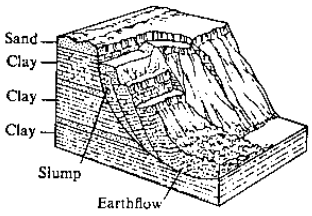

Monitoring Questions 33 & 34: Soil Productivity and Mass Movement

*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. 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 Boulder Thin, RCS Salvage, Blue River Face and Andy Timber Sales in 2008 revealed that Best Management Practices (BMPs) were being used properly to protect soil productivity. This included use of ground-based machines only on slopes under 30%, proper road use and disturbance ranging from 8 to 16%, below the Forest Plan standard of 20%. The Andy Timber Sale in particular, analyzed the effects of over-the-snow ground-based harvest in winter and revealed excellent results for soil protection on the McKenzie District.

The Forest Geologist also conducted post-prescribed fire monitoring of soils after an underburn to check for damage in one unit of the Trapper 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. On-the-ground monitoring results showed 60 to 80% duff layer retention overall and no signs of severely burned soils. In addition, the report mentioned that 95% of the overstory vegetation was unaffected by the burn and that low intensity fire conditions had been maintained as prescribed in planning documentation.

Additional soil monitoring is routinely completed during the Forest Supervisor's monitoring reviews. See section "Implementation Monitoring".




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 Santiam River basin.

Willamette National Forest personnel assisted in the assessment of the Frasier Slide, located on the northeast slope of Coyote Mountain (Salt Creek Watershed) on the Middle Fork Ranger District. This 60-acre slide first occurred on Saturday, January 19, 2008, and caused failure of up 1000 feet of Union Pacific Railroad line. Two Willamette National Forest Geologists conducted an extensive field survey of the surrounding 800 acres to analyze geomorphic history that led up to the slide and future potential for slope failure. The final report, completed in fall 2008, showed no compelling evidence for any site specific causal action on the part of the Forest Service or the Union Pacific Railroad. Actively or potentially highly unstable slopes were not found in the area and it was estimated that slope stability had been maintained for the previous 500 years. Stabilization of the slide and subsequent reopening of the rail line was managed by Union Pacific Railroad in consultation with the Forest Service and others, and freight transportation resumed in May 2008. Passenger traffic resumed later that summer.

A slide causing the closure of 1000 feet railroad was investigated. Cause not attributed to the Forest nor the Railroad.

In 2008, the Forest Geologist also visited five locations where Forest access routes intersect with semi-active or active slides of natural origin. Two of these sites and have undergone large-scale reconstructions at some point in the past and are under ongoing surveillance. Both the Boone Creek Slide on McKenzie River District (Road 19) and the Camp 5 Hill Slide on the Middle Fork District (Road 1926) showed no recent movement in 2008, verifying that past drainage improvements and a retaining wall structure are maintaining roads at these sites. The Forest Geologist gave input on three other stability issues on Latiwi, Holman Creek and Mouse Mountain roads (Forest Roads 2044, 2045 and 2027, respectively), where smaller scale, active slides caused limitations to management by Forest Service and private land managers.

A complex of six active land flows that directly affect an eight-mile section of U.S. Highway 20 between Cascadia and Santiam Pass are currently being studied by a coalition of partners. This group, made up of Federal Highway Administration, Oregon Department Transportation, Linn County and the U.S. Forest Service, has secured $1,000,000 to study feasible, cost effective options for protecting the integrity of this important highway. Ongoing data collection includes continuous groundwater monitoring, drilling to determine failure plane depths and collection of precipitation data at a weather station on site. Data collected and analyzed in 2008 led to specific

recommendations for road reconstruction and long-term maintenance at the six active land flow sites on Highway 20 (FHWA Geotechnical Report No. 05-08 Cornforth Consultants, Inc. Report 1869-2).

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.

USDA Forest Service, Umpqua and Willamette National Forests, 2008, Willamette Basin Water Quality Restoration Plan for the North Santiam, South Santiam, McKenzie, Middle Fork and Coast Fork Sub-basins. 142 pp.

U.S. Department of Transportation Federal Highway Administration, Western Federal Lands Highway Division, Vancouver, Washington. Geotechnical Report No. 05-08 OR EMK 2005(1), Interim Report Landslide Data and Analysis, South Santiam Highway, U.S. Route 20, Slope Stabilization Phase 1, Willamette National Forest, Linn County, Oregon, U.S. August, 2008.

## Air Quality

Monitoring Question 35: Air Quality

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

Results and findings for air quality monitoring are based on daily Region 6 computer program FASTRACS accomplishment reporting, Oregon Department of Forestry daily Smoke Management Forecast, Oregon Department of Forestry air quality monitoring systems and 2006 Approved Exceptions to the Smoke Management Instructions listing. Fuel and particulate tonnages, for daily prescribed burning, were based on the Consume Program that runs in FASTRACS.

In fiscal year 2008, at no time were thresholds of variability for air quality exceeded during prescribed burn projects on the Forest nor were there requests for deviations from the Oregon State Smoke Management daily forecast. No intrusions occurred in designated or smoke-sensitive area in this fiscal year, due to smoke from prescribed burning off the Willamette National Forest. Willamette National Forest did not contribute to or intrude in any designate or smoke-sensitive area from smoke generated by prescribed burning and finally, here were no reported or measured impairments of visibility standards in Class I areas on the Willamette National Forest in fiscal year 2008. Measurements were based on visibility monitoring by fixed detection sites on the Forest.

Air pollution monitoring using lichens continues on the Forest.

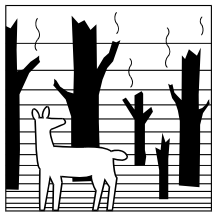
In addition to the activities above, the Forest has participated in a regional in-house air quality biomonitoring program since 1993. Lichens, a highly sensitive component of the forested ecosystems, help federal land managers detect and delineate air pollution and its effect. No new monitoring was reported in FY08. In 2006, the primary air quality monitoring activities on the Willamette National forest were 1), continued processing of samples from 10-year revisits to biomonitoring plots Forest-

wide, 2) an assessment of long term changes in the acidity, nitrogen and sulfur loading of precipitation from the NADP site in the HJ Andrews Experimental Forest, and 3) an evaluation of long term changes in visibility from IMPROVE data for the Three Sisters Wilderness.

Identifications and data entry are nearly complete for ten-year revisits made to more than 100 air quality bio-monitoring plots across the Willamette National Forest on the Forest Inventory and Analysis grid in 2004 and 2005. Monitoring encompassed all Forest wildernesses, including the Class I Wildernesses: Mt Jefferson, Mt. Washington, Three Sisters, and Diamond Peak, for which air quality is stringently protected by the federal Clean Air Act. In 2007 we used a model developed from the original baseline data (Geiser and Neitlich 2007) to score these 10 year revisits and find out whether there have been any detectable ecological responses, as indicated by lichen community composition, to air quality and climate changes.

Nitrogen-containing compounds in precipitation and fine particulates are the pollutants that most threaten natural resources and ecosystems in the Pacific Northwest. They originate as gases: nitrogen oxides emitted by vehicle and industrial combustion of fossil fuels, and ammonia emitted by animal husbandry and crop fertilizers. Unlike sulfur dioxide, a pollutant that has been successfully addressed since the 1970s by regulating industrial point sources, nitrogen-containing pollutants are tied to population size. Atmospheric pollutants like nitrogen, sulfur, and lead can accumulate in the environment as they are washed from the air in precipitation or dry deposited as fine particulates. High nitrogen and sulfur deposition causes acidification and eutrophication of terrestrial and aquatic ecosystems, which can have widespread adverse effects on biological diversity, soil productivity, plant growth, and water quality. In the atmosphere these compounds form smog that scatters light and reduces long distance visibility. In sufficient levels smog is also a human health concern. Lichen sulfur content on the Willamette National Forest decreased by about 14% during the past ten years, but nitrogen content increased by about 18%, about the same as the increase in the population of Oregon during this time. Trend analyses of regional IMPROVE (fine particulate chemistry) and NADP (precipitation chemistry) data are also showing steady-state or slight increases in nitrogen deposition whereas sulfur-containing pollutants are decreasing. Rainfall has become slightly more acidic over the past twenty years but as yet, pH is high enough that acid rain is unlikely to pose an ecological threat. From a visibility standpoint, visitors to Three Sisters Wilderness still enjoy some of the best visibility in the Pacific Northwest, and visibility has not declined since measurements began in 1993.

# Fire

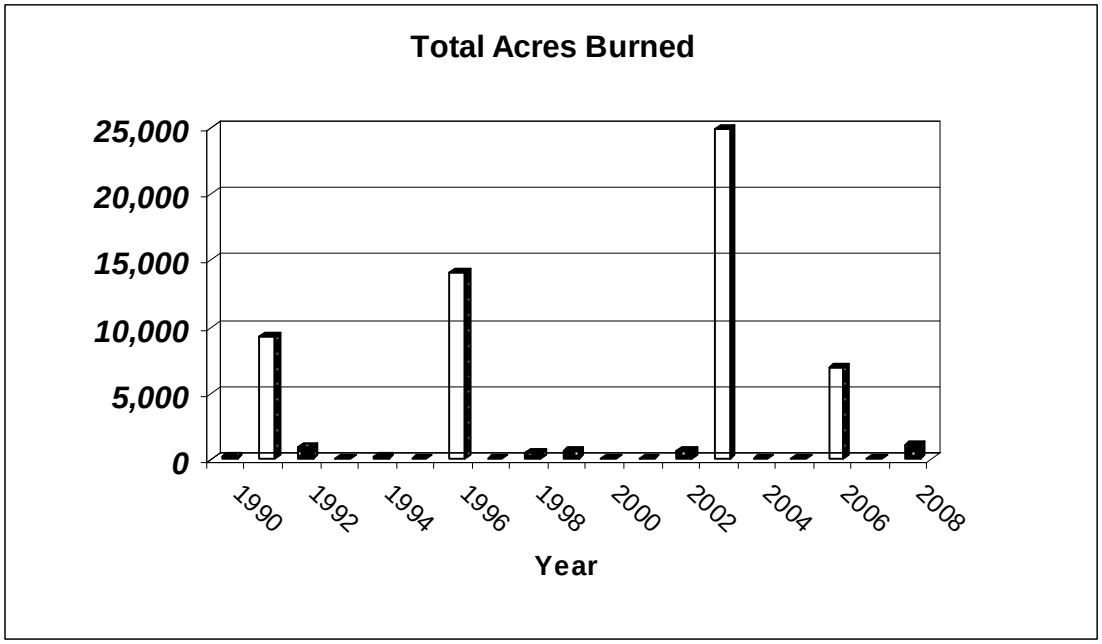


Monitoring Question 36: Fire protection

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

There was a total of 1,066 acres burned stemming from 185 fires in FY08 in non-wilderness areas. Thirty-four reported fires resulted in 10 acres burned in the wilderness. 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 18yrs since the Forest Plan has been implemented, over 31,150 acres have burned in both wilderness and non-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?*

The Forest completed 1,459 acres of fuel treatment in FY2008 or 100% of the its assigned target of fuel treatment. The cumulative average of 2,635 acres of fuel treatment is in excess predicted in the Forest Plan for a three year average. The acres treated were a

direct result of timber harvest activities on the forest. With an increasing harvest level, the future outlook is for an upward trend in fuels treatments on the Forest.

# 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 FY08 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.

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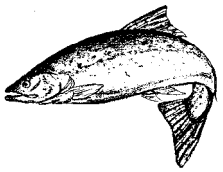
Summary Results
Fish Populations
Habitat Diversity
Wildlife
Plants

## BIOLOGICAL RESOURCES SUMMARY FINDINGS

| Monitoring Question | Monitoring Activities | Monitoring Results | Supplemental Information |
|---|---|---|---|
| ***Fish Populations*** | | | |
| 13 Fish Populations | River monitoring, field observations | Results OK | Fish FY08 Monitoring Report |
| ***Habitat Diversity*** | | | |
| 14 Aquatic Habitat | Field evaluations | Results OK | Fish FY08 Monitoring Report |
| 28, 31 Riparian & Wetlands | Field evaluations | Results OK | Wetlands Monitoring Report FY08 |
| 40 Biological Diversity | Field surveys and Spotted Owl demographic study | Results OK | Biological Diversity FY08 Monitoring Report |
| ***Wildlife*** | | | |
| 15 Bald Eagle | District surveys | Results OK | Wildlife FY08 monitoring report |
| 18 Perigrine 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 | |
| ***Plants*** | | | |
| 16 TE&S Plants | Forest and district records and field activities | Results OK | Botany FY08 monitoring report |
| Noxious weeds | | Results OK | |
| Native species | | Results OK | |



# 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 2008 there were no adult salmon released in the Middle Fork Willamette River due to low numbers and a need to place them elsewhere. Live salmon are only available after the hatchery network has met their quota and in 2008 ODFW barley made those quotas. ODFW did plant fertile eggs in human-made redds in the Middle Fork River. At this time we are not sure if these redds were successful or not

***Bull trout habitat:*** In 2008 we observed at least 21 adult bull trout returning to spawning areas of the Middle Fork Willamette. At least ten bull trout redds were documented in the Middle Fork Willamette and tributaries. This is another large increase over last years estimate. The population continues to increase and is expected to maintain that trend for the next several years as new age classes continue to mature. The Forest Service works in conjunction with ODFW on nearly all bull trout and salmon related research projects.

In 2008 we monitored all previous projects and have determined that 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 now implanted with a recorded tag so biologists can determine seasonal migration patterns and location of spawning.

In 2008, four miles of bull trout habitat on the Middle Fork Willamette River was improved in a jointly funded restoration project with the Watershed Council, OWEB, and US Fish and Wildlife Service. In the last few years the Forest has completed several instream restoration projects to increase spawning habitat in areas used by bull trout. In 2008 over 450 logs and root wads were placed at numerous sites frequented by bull trout. We are now able to pull over entire trees to create solid foundations for our stream structures. We are preparing to place another 50 large log structures in the Middle Fork and surrounding areas to create or enhance four more miles of habitat in 2009. Also in 2008, we completed Phase Two Indigo Springs spawning channel project. When finished in 2009, this project will remove 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 recently awarded grant funding from the USFWS, OWEB, and others and is due to be completed in 2009.

***Bull trout populations:*** The population appears to be increasing or 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 another 1000 bull trout fry in the McKenzie Hatchery again this year. These fish will be released in the fall of 2009.

Today, bull trout are common in the Middle Fork Willamette. Years of hard work and funding appear to have paid big dividends in this program as we can once again see wild bull trout in their native environment

- McKenzie River

***Spring Chinook:*** Spring Chinook adult returns to the Columbia Basin were poor in 2008. The McKenzie Sub-basin reflected poor returns in 2008 with decade low counts through fish counting facilities at Leaburg Dam (1,612 in 2008).

Partners continue to address limiting factors within the sub-basin.

Restoration of habitats by partners in the sub-basin focus on factors found limiting to spring Chinook production, and those projects range from historic temperature regime restoration (Cougar Temperature Control Project by ACOE) to restoration of aquatic habitats (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 ACOE 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.

The USFS continued a multi-year in-stream project in the South Fork McKenzie River and Roaring River during 2008 in an effort to restore spring Chinook and bull trout spawning habitat and rearing habitat. Approximately 8.5 miles of upper South Fork McKenzie and Roaring Rivers are being enhanced through addition of large woody material and restriction of vehicle access to waterways along Forest Road 19. The USFS will conduct post-project effectiveness monitoring through examination of habitat conditions, which will be of value in answering the question of Chinook and bull trout habitat availability and production conditions. ODFW and ACOE continue to monitor spring Chinook salmon production above and below Cougar Dam and that data will be useful in answering restoration effectiveness.

Willamette Basin dam operations by ACOE continue to address native fish recovery through the 2007 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.

Prospects for juvenile salmon production in the sub-basin are poor in 2009, based on poor adult returns. Spring Chinook adult transport around Trail Bridge Dam by ODFW did not occur in 2008 as hatchery return and production took priority. Adults in excess of hatchery needs were transported above Cougar Dam, to the South Fork McKenzie

River (288 females; 558 males; 12 jacks). In lieu of transporting adults above Trail Bridge Dam, ODFW and USFS biologists deposited 152,000 fertilized salmon eggs into human constructed egg nests of the Upper McKenzie and Smith Rivers. The hatchery origin eggs, in excess of McKenzie River Hatchery needs, are intended to provide a modest level of production and prey source for bull trout isolated above Trail Bridge Dam.

As an indicator of wild salmon production below Trail Bridge Dam, the Carmen Spawning Channel is surveyed. In the spawning channel 24 spring Chinook redds were tallied during 2008 which is a decrease from 57 redds in 2007. Juvenile production and habitat utilization in the McKenzie sub-basin, based upon poor adult returns, is expectedly low with underutilization of available habitat.

***Bull trout habitat:*** Monitoring during 2008 saw lower spawning use based on redd counts in the McKenzie River and South Fork McKenzie River populations. Those fluctuations are not believed attributable to degradation of habitats, as frequent spawning surveys, temperature monitoring and adult and juvenile migration, provide continuous feedback on habitat conditions. During 2008, the significant increase observed in Trail Bridge bull trout redd counts is attributed to the absence of simultaneous spring Chinook spawning in the upper McKenzie River (spring Chinook salmon adults were not transported above Trail Bridge Dam in 2008, described above). The absence of spawning salmon gave biologists the opportunity to more closely estimate bull trout spawning production and adult population isolated above Trail Bridge Dam. Past year estimates have likely underestimated bull trout spawning activity as redds can only be attributed when adults are observed on the redd. This year's redd count of 53 provides a more accurate estimate of adult population than previous years (most recently 37 redds in 2007).

Past year estimates have likely underestimated bull trout spawning activity. This years estimate is more accurate.

Habitat improvements in the South Fork McKenzie River (also described above) included treatment of habitats providing for the life history needs of bull trout. Specifically, side channel habitat recovery (described as lost through the South Fork McKenzie Watershed Analysis) were continued during 2007-08.. The project restored large woody material to the river channel utilized by spawning and rearing bull trout by restoring 60 log complexes in previously salvaged river channels. The McKenzie River Ranger District is planning, in cooperation with Eugene Water & Electric Board, projects downstream of Trail Bridge Dam that include improvement of conditions in side channels. The project objectives are to increase spawning habitat and fry rearing for spring Chinook salmon, and rearing and foraging habitat for bull trout, and are slated for implementation during 2009.

***Bull trout populations:*** Among the three populations of bull trout in the McKenzie sub-basin in 2008, there were 2 decreasing and 1 increasing trends from previous year redd counts (table below).

On the mainstem of the McKenzie River, a decrease in the number of redds from the previous year observed in spawning tributaries Anderson and Olallie Creeks, led to an overall 13% decline in observed redds. Bull trout fry migration recorded in 2008 at the Hwy 126 trap in Anderson Creek saw a steady level of production compared to 2007. Juvenile bull trout migration (Age 1+ and older) from Anderson Creek increased

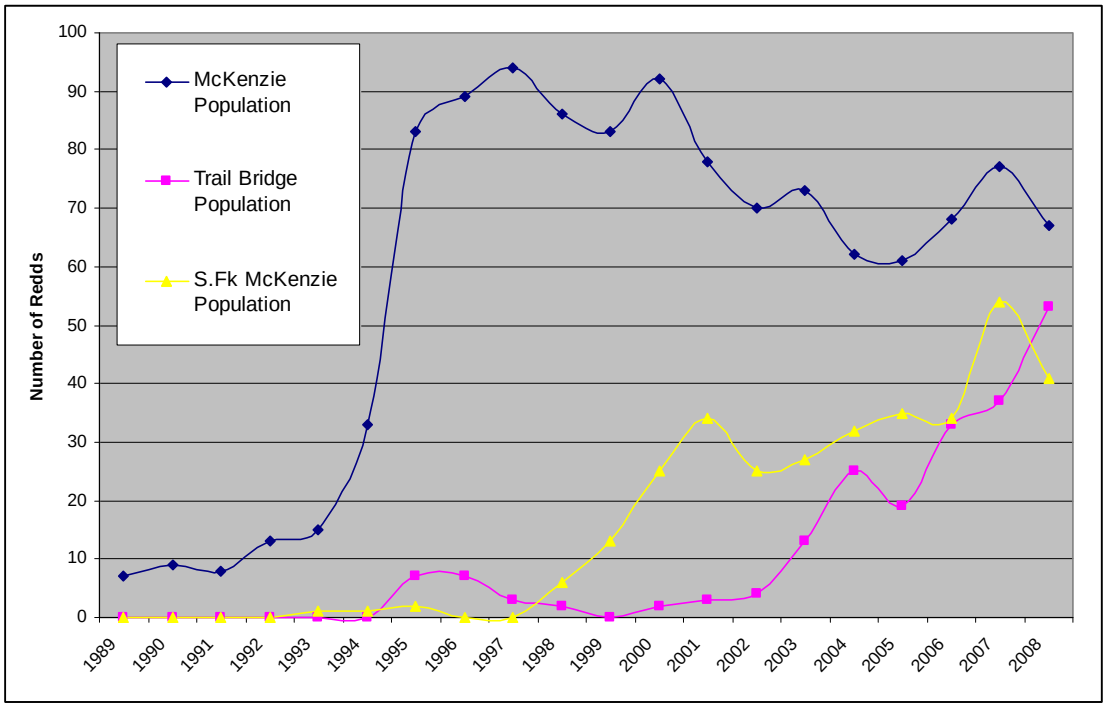
significantly from the previous year (30%), also supporting a maintained or improved habitat quality assessment.

Forty percent increase in the number of observed redds in the Upper McKenzie. South Fork McKenzie experiences a decrease.

In 2008 there was a 40+% increase in the number of observed redds recorded in the Upper McKenzie above Trail Bridge Reservoir, which includes habitat restored in 2005, and Sweetwater Creek. This increase is attributed to less complicated surveying conditions (the absence of spawning spring Chinook salmon adults, transported around Trail Bridge Dam by ODFW. Our preference is to have spring Chinook salmon adults once again transported above the dam). We believe the level of bull trout spawning use observed during 2008, more closely reflects habitat use and population size than previous year(s) surveys.

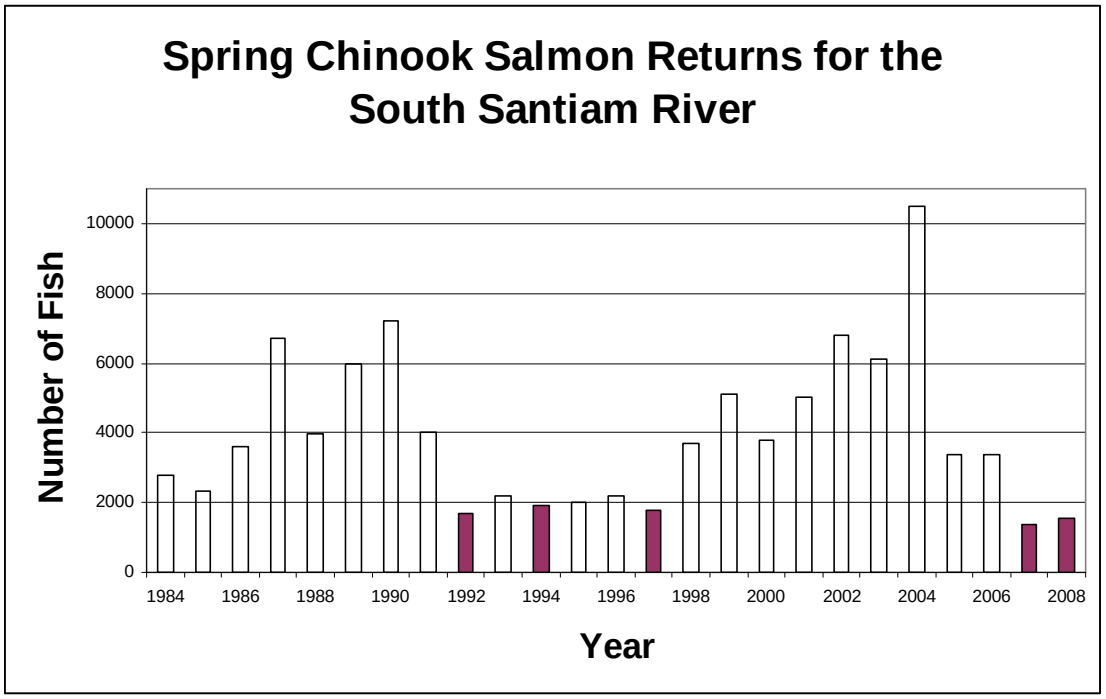
Based on redd survey results, the South Fork McKenzie population experienced a decrease compared to prior years. The reason for a 24% decrease is unknown. The extensively studied South Fork population (studied by ODFW with ACOE support), may simply be experiencing a downward trend in adult abundance. Abundance, cyclic in nature, is influenced by numerous variables including food availability/competition, predation, angler harvest (illegal or angling associated mortality), habitat quality and availability, etc.

Bull trout redd counts by sub-population from spawning surveys by ODFW, Stillwater Sciences and Forest Service; 1989-2008

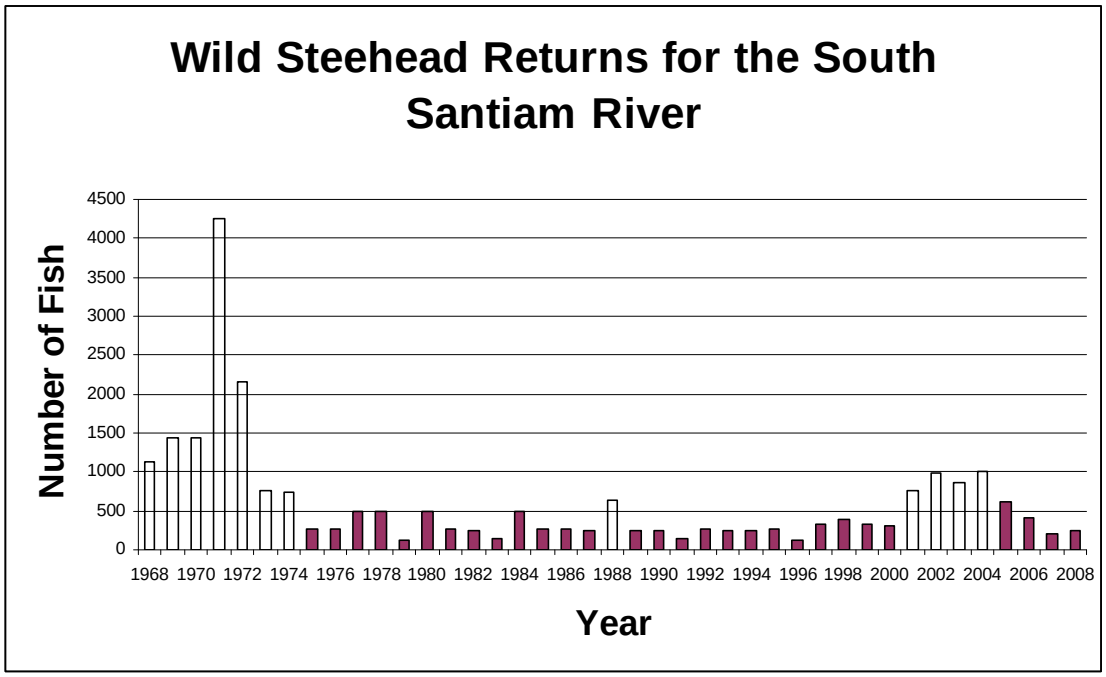


Santiam

***Spring Chinook:*** There has been no monitoring in the North Santiam River, Little North Santiam River, the South Santiam River or the Calapooia River that would indicate whether smolt numbers are increasing, decreasing or are stable. In the North Santiam River, hatchery supplementation and natural spawning of Chinook moved around Big Cliff and Detroit Dams continues. Redd counts show that trap and haul operations are producing naturally spawned Chinook, but smolt survival through the dams not been monitored. Habitat studies completed by the Army Corps of Engineers show that there is quality spawning habitat in the Breitenbush and Upper North Santiam watersheds. The only way to get a handle on smolt production is to place traps on the three systems. Unsuccessful attempts to place traps were made in 2006. A new design for monitoring of smolt migration and downstream passage through Detroit Dam are identified as part of the Willamette Basin Biological Opinion. ODFW is coordinating 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);*** 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 habitat:*** Potential Bull Trout habitat in the North Santiam and South Santiam River Systems are being maintained. Habitat suitability for bull trout reintroduction is currently being explored in the upper North Santiam basin.

- 

- 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.

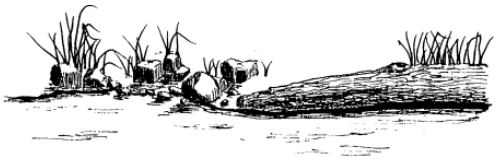
Populations are still stable or increasing trends in abundance for several streams on the Forest.

In 2007, Oregon Department of Fish and Wildlife (ODFW) was the primary agency monitoring Oregon chub, and the Willamette National Forest worked cooperatively to monitor populations on the Forest. In 2008, the Middle Fork District took over the responsibility of monitoring many 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 2008.

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. 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?*

Protection and restoration completed on the north end.

No formal monitoring was conducted for riparian terrestrial habitat in FY08; 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 FY08, 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.

Monitoring Questions 40: Biological Diversity

*Is biological diversity being maintained or enhanced on the Forest?*

Maintaining biological diversity on the Forest is integral to all that we do. Every action implemented and prescription written considers its impact on the biological diversity of the Forest. Below are examples of work being done to maintain biodiversity and more can be found throughout the Monitoring Report.

*What projects are being done to maintain that biodiversity?*

Several meadows below are being actively managed in partnership with many outside groups:

### Browder Ridge Habitat Enhancement

In 2008 tribal members developed a map of specific areas to focus on within the meadow complex. A burn plan was completed for the prescribed fire. The methodology for the burn changed from a heli-torch to hand carried drip torches. This change is due to the more difficult logistics and uncertain availability of a helicopter. The Northwest Youth Corps spent a week cutting and girdling small trees and pulling them away from the trail. Volunteers from the North American Butterfly Association collected seed of 14 native species that are either of high elk forage value or are host/nectar plants for butterflies in July 2008. We have requested additional funds for more tree removal, seed collection and burning the meadows in 2009.

### Crescent Mt. Meadow Restoration

The Northwest Youth Corps was utilized to remove or girdle small trees throughout a 145 acre mesic meadow. A10-person crew worked in the meadow for one week, which included hiking about 3 miles each way daily. All fallen trees within 50 feet of the Crescent Mountain Trail were pulled back to maintain visual integrity of the trail.

### Gordon Meadows

Restoration work continued in Gordon Meadows for the fourth year. A fire crew on standby was utilized to thin understory trees in the area west of the meadow, thereby connecting the main meadow to a small mesic meadow to the west. The NWYC also spent a day pruning out small encroaching trees in the main meadow. A crew of district employees burned piles and removed debris from the project area.

### Camas Prairie Restoration

The prairie was expanded by approximately two acres in 2008 by using mechanical equipment to mow brush and small trees, including hazel bushes. This area can now be included in the prescribed burn that occurs every two years, and is scheduled for 2009. The Siletz Tribe in particular is interested in having hazel burned because the hazel shoots that result from the burning provide basket making material. The invasive species, false brome and meadow knapweed, were hand pulled so that no herbicides are used at this cultural site. Camas seed was collected at the site as it is every summer.

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

Upper Middle Fork Willamette Meadow Prescribed Burning

Five meadows were burned by the Middle Fork District fire crew in 2008: Jim's Oak Patch, Rigdon Meadows, Mutton Meadow, Big Pine Opening, and Groundhog Meadow. Monitoring transects were placed in Mutton Meadow in 2005 and have been read ever since. We are looking at the success of fall versus spring burning on maintaining desired species (oak and native bunchgrasses) and removal of undesired species (noxious weeds and non-native annual grasses). Data is being analyzed from these transects.

Powerline Corridor Monitor Project

Native and non-native seed mixes were used to revegetate formerly weed infested powerline corridors to determine if native mixes work and which mix, if any, wildlife species prefer. Monitoring transects were placed in 4 units representing site types: native mix/deep soil, non-native mix/deep soil, native mix/rocky soil and non-native mix/rocky soil. Preliminary results show natives worked as well as non-natives in establishment of cover and in competing with sprouting weeds but did not perform as well in dry rocky soils.

Grasshopper Mt. Prescribed Burn Monitoring

Three transects were placed through severely burned tree islands in Grasshopper meadow to determine whether tree islands can be converted back to meadow and how long it takes for the understory to get reestablished. We are also monitoring the spread of 2 clumps of St. Johnswort in the meadows following the burn.

***In addition to the above***, 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 strategic list. Effects to federally threatened and endangered and Forest Service sensitive species were evaluated for each proposed project. In FY 2008, 124 project-level Biological Evaluations were conducted to address effects and identify mitigation measures for these species. There were 7 informal consultations on project effects with the U. S. Fish and Wildlife Service and/or the National Marine Fisheries Service. One formal consultation was conducted with the U. S. Fish and Wildlife Service on project effects to northern spotted owl. In 2008 the U. S. Fish and Wildlife Service finalized the Recovery Plan and revised Critical Habitat for Northern Spotted Owls. Three hundred and eighty one thousands two hundred and fifty one acres of spotted owl critical habitat were designated on the Willamette National Forest. Specific inventory and monitoring surveys were conducted on the Forest for mardon skippers, Oregon slender salamander, bald eagles, and peregrine falcons under the Regional Special Status Species Program. 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. The U. S. Geological Survey continued to monitor Oregon spotted frogs in Mink Lake Basin and Gold Lake. Additional surveys for Special Status Species were conducted at the project-level. Potential habitat for sensitive species 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. The first maternity colony of the sensitive Townsends big-eared bat was documented on the Forest.

Formal assessment to answer MQ 40 will take place during plan revision. Given the modest scale of timber harvest under the current plan and budget levels, it appears unlikely that a catastrophic loss in plant association group/seral stage biodiversity is occurring.

## Wildlife

Monitoring Questions15: 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. The 15 known nest sites on the Forest are being managed in accordance to Forest Plan S&Gs with seasonal restrictions applied to activities near active nests. Enhancement activities improved 128 acres of bald eagle

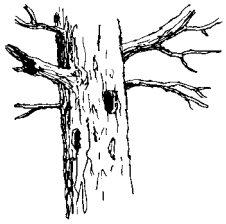
nesting habitat in 2008 and nesting sites were monitored for use. Three nests on the Forest were documented producing nestlings to older than 4 weeks of age.

Monitoring Questions 18: Peregrine Falcon

*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 lands.

A requirement of the Endangered Species Act is to monitor a delisted species for at least 5 years. The Forest has 28 known nesting sites, including one new site that was found in 2008. Seven of these nest sites are included in the 2003 National Monitoring Program. Fifteen sites were monitored in 2008, including the 7 national monitoring sites. Of the 15 nests, 8 (53%) had active nesting and 5 (62%) of the active sites produced young at a rate of 1.1 young per active site. The 7 national monitoring sites produced only 1 young in 2008 with 4 sites unoccupied. In 2006 and 2007, the 7 national monitoring sites produced 5 young each year. The reasons for the low falcon production in 2008 are uncertain. The winter of 2007-2008 had above average snowfall and late snowmelt, however. Further monitoring of nesting success is planned for 2009. Three hundred and twenty acres of peregrine falcon habitat were enhanced by a road closure in 2008.

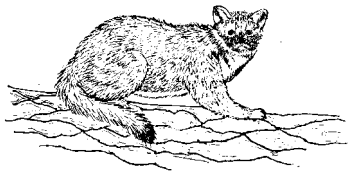


Monitoring Questions19: Primary cavity excavators

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

Harvest units are monitored every year to determine whether the number, size, species, and distribution of wildlife trees are retained after harvest as prescribed in the accompanying Environmental Assessments. Of the 102 harvested units monitored in 2008, 100% were in compliance with wildlife tree retention prescriptions. Because timber harvest practices have shifted from clearcutting old forests to thinning of younger stands, large numbers of green trees are left in addition to specific wildlife trees which helps provide habitat for cavity nesters.

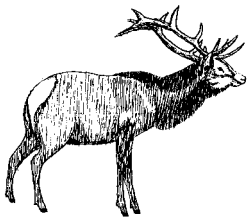
Snags are created annually using a variety of methods, such as tree topping, girdling, top blasting, and/or inoculation to create cavity nesting habitat generally in connection with timber sales. In 2008, 1157 natural and management-created snags were surveyed for cavity use on one district. Monitoring to date shows substantial use of created snags by primary cavity excavators, especially for foraging, and suggests that this practice helps maintain and promote use by primary cavity excavators in areas of timber harvest.



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.



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). The development of an updated elk habitat model reflecting current science has been proposed by a group of elk researchers. ODFW recently developed a statewide management plan for black-tailed deer. Both these efforts 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. Based on hunter statistics and annual census counts by ODFW, population of black-tailed deer have declined in the past 15 years. Elk populations are more stable (ODFW 2003) as they can utilize lower quality forage such as grass. In some areas elk and deer have shifted from public lands to private lands which have more young clearcuts.

Elk populations limited by nutritional adequacy of forages.

The need to improve elk and deer foraging habitat is considered in all vegetation manipulation projects. 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. District wildlife biologists identified about 11,900 acres of projects that were planned in 2008 that would benefit elk and deer habitat. These projects include 3,600 acres of precommercial thinning, 4,280 acres of commercial thinning, 640 acres of browse cutback, 380 acres of meadow restoration, 2,500 acres of underburning, 56 acres of savannah restoration, and 450 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 and the Oregon Hunters Association.

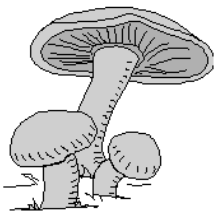
Opportunities to close roads to improve habitat effectiveness for elk are considered when appropriate with other management objectives and when funding allows. About 17 miles of new road closures were implemented this year and several hundred miles of existing gated roads were inspected and gates and locks were maintained to provide increased habitat security.

Overall, district biologists rated elk forage quality, including the size and spacing of forage areas and the abundance and access to moderate and high-quality winter and summer range, as declining in habitat value, except on the Sweethome district where substantial amounts of private timber land inholdings occur in a checkboard pattern with Forest Service ownership, and on some summer range areas where it is more stable. Elk hiding cover was rated as increasing in value across most the forest. Road effectiveness values in high value elk habitat are also generally increasing, although opportunities to further enhance elk habitat with road closures remain.

Oregon Department of Fish and Wildlife. 2003. Oregon's elk management plan. Portland, Oregon.

Oregon Department of Fish and Wildlife. 2008. Oregon black-tailed deer management plan. Salem, Oregon.

Wisdom, M., J. Lehmkuhl, M. Vavra, M. Rowland, P. Singleton, B. Gaines, J. Cook, R. Cook, B. Johnson, P. Cox, and S. McCorquodale. A proposal to develop and apply new elk habitat models in Westside and Blue Mountain Provinces of Oregon and Washington. 2007. Unpublished report submitted to Sporting Conservation Council, 11/27/2007. U. S. Forest Service, Pacific Northwest Research Station. La Grande, Oregon.

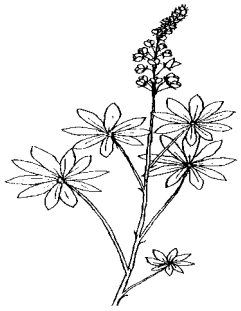


New Monitoring Question: Survey and Manage[1]

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

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. The conservation of rare and little known species are protected by other elements of the Northwest Forest Plan and, if listed as federally threatened, endangered, or proposed or as Forest Service sensitive or strategic, they receive additional species

management considerations under the Forest Service Special Status Species Program. Protection of these species is addressed under Monitoring Question 40.



## 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 10,000 acres for projects ranging from timber sales to new toilet construction. Fifty-four Biological Evaluations were written to document effects on sensitive species New sites of the following sensitive species were documented in survey efforts: *Peltigera pacifica*(17), *Pseudocyphellaria rainierensis* (8), *Nephroma occultum* (3), *Bridgeoporus nobilissimus* (1), *Ramaria gelatiniaurantia*(1), *Rhizomnium nudum* (1), *Lobaria linita* (2), *Corydalis aqua-gelidae* (1), and many sites of *Usnea longissima* in the Moose and South Santiam drainages.

Sensitive Plant Monitoring and Results

*What is the status of the sensitive plants on the Forest?*

District Botanists monitor the health of sensitive plants on their Ranger Districts as part of the Threatened, Endangered and Sensitive plant program. In 2008, twelve different species were monitored. Monitoring can range from checking that plant populations are still in the area to actual counting of individuals within a population (Table 1).

Results of monitoring sensitive plants on the Willamette National Forest in 2008

| Species Name | Results |
|---|---|
| *Rhizomnium nudum* | stable |
| *Gentiana newberryi* | stable |
| *Romanzoffia thompsonii* | stable |
| *Frasera umpquaensis* | stable |
| *Lewisia columbiana* | stable |
| *Arabis hastatula* | Population on Iron Mountain declined due to removal of lookout and construction of interpretive site.<br>Population on Echo Mountain has increased since initial discovery. |
| *Cimicifuga elata* | Species declining, likely due to big game browsing. |
| *Botrychium minganense* | Species declining after increasing 2001-2003, reasons unknown |
| *Botrychium montanum* | Species declining, reasons unknown; one population extant |
| *Ophioglossum pusillum* | Species stable to increasing |
| *Bridgeoporus nobilissimus* | Was unable to locate two of four conks at Gordon site; conks possibly died. |
| *Aster gormanii* | Species stable |

New Monitoring Question: Noxious Weeds[1]

*Has the Forest implemented a noxious weed prevention program? Has the effectiveness been monitored?*

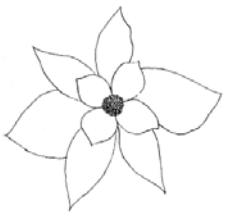
Over five thousand acres on the Willamette National Forest were treated for noxious weeds in 2008. Most of the acres (3500) were manual treatments using the Youth Conservation Corps and other Forest Service staff in old timber sale units and roadsides. Oregon Department of Agriculture Staff were contracted to treat 1200 acres using chemical and manual control. Some Title 2 funds were used to accomplish manual removal of over 100 acres of blackberries on Sweet Home District by Northwest Youth Corps. On McKenzie District, ninety acres of false brome, knapweed, blackberry, and other invasive plants were treated using Title 2 funds from Lane and Linn counties. Douglas County Title 2 funds were

[1] This monitoring question was established in 1999 as part of the Noxious Weed EA completed under Forest Plan Amendment 42.

[2] This monitoring question was established in 1999 as part of the Native Species Revegetation Program. No Forest Plan amendment.

used to survey roads and trails on the Middle Fork Ranger District for non-native weed species and manually controlled weeds on 18 acres.

Marion SWCD developed a partnership with the Detroit RD (USFS) and Salem BLM to survey the Little North Fork of the Santiam River for noxious weeds. Surveys were conducted by Northwest Youth Corps. Several new populations of false brome were found on FS land. An OWEB grant was submitted and received by the Middle Fork Willamette False Brome working group in partnership with the USFS to inventory and treat False Brome in the Fall Creek and Winberry drainages on private and public land. Inventories and treatment will be done in 2009.



New Monitoring Question: Native Species Revegetation[2]

*Is the Forest using native species for re-vegetation purposes for all projects?*

Native seed for restoration projects across the Forest?

The Forest awarded contracts for 6,050 pounds of blue wildrye and 3,275 pounds of California brome to be used on revegetation projects forest-wide. We partnered with Salem BLM's Horning Seed Orchard to produce 6 pounds of big deervetch, 11 pounds of Cardwell's penstemon and 21 pounds of lupine. These legumes will be mixed with native grasses for roadside plantings and other restoration projects. We partnered with Union Pacific Railroad to revegetate 21 acres of Frazier slide with native grasses. We received 1,100 pounds of California fescue to be used on the Jim's Creek project on Middle Fork District. We initiated trials of native grass and forb species in powerline corridors to increase wildlife forage (see results under terrestrial restoration). We collected huckleberries, wildflowers and Oregon white oak acorns for projects to occur on the Forest in outyears.

# Resources and Services to People

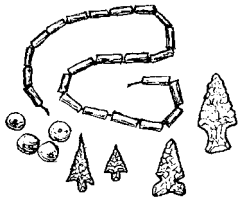
This section of the monitoring report describes the resources and services the Forest provides its constituents. Recreation, timber, and roads provide direct benefits to many users of the forest. Benefits from other areas such as the cultural resources and research natural areas provide a more indirect 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.

CONTENTS


- Summary Results
- Cultural Resources
- Unique Areas
- Recreation
- Timber
- Transportation


| Monitoring Question | | Monitoring Activities | Monitoring Results | Supplemental Information |
|---|---|---|---|---|
| ***Cultural Resources*** | | | | |
| 2 | Cultural Resources | Site visits | Results OK | Heritage FY08 monitoring report |
| ***Specially designated unique areas*** | | | | |
| 3 | Wilderness | District reporting, on-site visits by district personnel | Results OK | Recreation FY08 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 FY08 monitoring report |
| ***Recreation*** | | | | |
| 6 | ROS | District reporting, on-site visits by district personnel | Results OK | Recreation and Scenic FY08 monitoring report |
| 7 | Recreation Visitor Use | | No new results until 2008 | |
| 8 | Scenic Resources | | Results OK | |
| 10 | Trails | District reporting, site visits | Limited results | Trail FY08 monitoring report |
| 11 | Developed Recreation | District reporting, on-site visits by district personnel | Results OK | Recreation FY08monitoring report |
| 12 | Off-road vehicle use | | Results OK | |
| ***Timber*** | | | | |
| 22 | Timber Suitability | Review of land allocation changes | No new results | Timber Suitability FY08 report |
| 23 | Timber Program | Review of timber records | Results OK | Timber records |
| 24 | Silvicultural Practices | Review of silvicultural records | Further evaluation | Silvicultural records |
| ***Transportation*** | | | | |
| 38 | Transportation System | Reports, databases, traffic counts | Results OK | Transportation FY08 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 2200 known cultural resources including archaeological and historic sites, trails, and structures, as well as a multitude and variety of isolated finds and features. The Forest is managing and protecting these sites consistent with the Forest Plan direction and law.

During FY08, Heritage staff reported monitoring visits to 68 sites, which represents about 3% of the total inventory of known sites. These monitoring visits occurred most often in conjunction with proposed project surveys or as follow-up to recent projects. Contractors monitored 14 sites, also in conjunction with timber planning efforts. Several sites were monitored in conjunction with heritage hikes and projects, as well. While six sites could not be relocated due to changed vegetative conditions or encroachment, no significant new impacts were reported at 54 (80%) of the sites visited.

Though most often individual impacts noted were generally minor, significant new impacts were found at six sites, resulting in a "poor" or "damaged" site condition being reported. Several (9) sites were affected by road maintenance; vandalism of historic structures and surface artifact collection was reported at 6 sites; damage related to Off-highway vehicles (OHV) in the form of ruts and erosion was found at three sites; Impacts related to logging were found at five sites and impacts of fire at two sites. Again most were relatively minor, though cumulatively could result in irreversibly degraded site condition.

Most historic buildings however are being maintained to standard, while some which are not actively used are not being well maintained and may be subject to vandalism. One stone oven related to railroad construction was partially dismantled and requires rehab. Measures could be taken to avoid more serious continued and cumulative effects. Preservation signing is encouraged at historic buildings and other vulnerable site areas where public use is concentrated, such as 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. Protection by avoidance or project redesign is usually recommended for sites monitored or discovered in conjunction with project planning.

Consultation with the State Historic Preservation Office (SHPO) continues under a Programmatic Agreement for compliance with the National Historic Preservation Act. Improvement continues with consultation with local tribes. 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 Corp 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.

## 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. A permit system is still in place to monitor visitor use in all wildernesses on the Willamette National Forest. Based on data submitted, use levels are within the established limits with some exceptions. These include the Pamelia Lake and Obsidian Cliffs Limited Use Areas, though the limited entry has resulted in improved resource conditions. Use numbers for the Obsidian Limited Area remain stable with some seasonal fluctuations due to field conditions. Also Marion Lake, the Jefferson Park, and the Eight Lakes Basin/Duffy Lake areas will at times exceed use limits. Recent burns in the Mt. Jefferson Wilderness are also displacing users into unburned portions of the Wilderness. A hunting cabin was decommissioned and removed in the Diamond Peak Wilderness in 2008. Marion Bridge, a non-conforming bridge structure in the Mt. Jefferson Wilderness, is scheduled to be removed in 2009.

Some structures removed or scheduled to be removed.

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. River use is increasing, but the outstanding remarkable river values (ORV's) standards are being met. The Bruckart boat launch site on the McKenzie River was relocated, and the existing boat launch was blocked off and rehabilitated. The relocation has protected and improved the Scenic values in this area, and the new launch is more complimentary to the natural setting. These actions also improved safety, accommodate the current level of use, and reduce resource impacts. 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 2007.

Improvements to scenic values and safety to McKenzie River boat launches.

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 2008. 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 roadlesss. 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?*

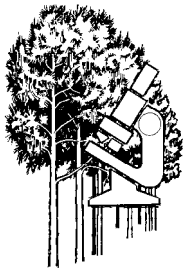
Generally, unique areas on the Forest such as SIAs, OGGs and OCRA are being managed to protect their special attributes. Minor site-specific problems continue to occur in localized areas within special interest areas such as Fall Creek, Hardesty Mountain, and Bradley Lake, but overall area attributes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

Rehabilitation of the Santiam Wagon Road begins.

In 2008 a decision was made to rehabilitate existing motorized recreation-vehicle impacts to the Santiam Wagon Road SIA as part of the Santiam Pass Motorized Recreation Project. Grant and restoration funds from the Oregon Parks and Recreation Department will be utilized to begin rehabilitation efforts in 2009. Efforts to complete implementation guides for the Wolf Rock and McKenzie River SIAs are underway and should be completed in 2009.

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. Three Pools Day Use Area improvements were made to help reduce recreation impacts and congestion; improve visitor safety, recreation experience and scenic quality; and to meet management goals for the Opal Creek SRA.

Monitoring of Hidden Lake SIA and Terwilliger Hot Springs shows management actions over the past several years aimed at correcting overuse, inappropriate visitor behaviors, and unacceptable resource damage are having positive effects. Social and biological conditions are moving in a direction consistent with the reason the areas was designated an SIA.



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 has been in effect for two very successful years. The Middle Fork Ranger District has two volunteer stewards. Their work is coordinated jointly between the Forest's RNA Coordinator and the Middle Fork RNA Coordinator. Three RNAs were visited last year, Rigdon Point RNA, Torrey Charlton RNA, and Gold Lake RNA. Also boundary markers were reestablished for Gold Lake in anticipation for a formal boundary description. We also completed a formal boundary description for Olallie Ridge RNA. Formal boundary descriptions are completed for all RNAs at the time of establishment; however this was not the practice when Gold Lake and Olallie Ridge was established in the 1960's.

***Torrey/Charlton RNA:*** Monitoring in Torrey/Charlton proceeded with the objective of looking for the presence of weeds and observing the status of the lodgepole pine regeneration after the burn. The RNA is composed of two separate units.

The Torrey Lake Unit of the RNA and adjacent border area burned during a large fire in the 1990's. The pre-fire forest was classified as a Mountain Hemlock cover type. Within the area are four lakes of moderate size – Torrey, Whig, Wahanna, and Cervis as well as numerous small non-forested wet meadow communities saturated in poorly drained depressions. Although the highest elevation is 5,845 at Taylor Butte on the northwest corner, much of the Torrey Unit area is composed of rather gentle topography ranging from 5,300 feet to 5,400 feet in elevation. In summary the status of the forest regeneration observed in the Torrey Unit of the RNA included the following:

Initially the area was a remnant of forest snags, many crumbling, with very little conifer reproduction.

The recon, however, indicated that regeneration was occurring- most common among lodgepole pine, subalpine fir, mountain hemlock, noble fir and to a much lesser extent Douglas fir, western white pine and Englemann spruce.

Lodgepole pine regeneration, though not as intensive as for. and mountain hemlock, was localized primarily in a few small, approximately ¼ acre stands along 3581 trail areas. Southeast and west of Torrey Lake evidence of rather intense fire was apparent at the sites. In other areas, lodgepole, of large seedling or sapling size were seen, but only sparely and not forming a contiguous stand. No mature lodgepole pine was observed.

The areas of most concentrated regeneration, consisting of subalpine fir, mountain hemlock and some noble fir, was situated south of Torrey Lake in an areas that was apparently burned by low intensity fire. Scattered within the locality were a few old growth true firs and mountain hemlock that were not killed during the fire.

Over time conifer regeneration will become a more conspicuous component of the burn in the Torrey Unit. But I expect that many sites with currently very minimal in any conifer reproduction will remain open for several years before a seed source and subsequent regeneration reaches these areas.

The ***Charlton Butte Unit*** of the RNA was monitored in September of 2008. It was good to report that no non-native plants were seen along the route followed and no litter was encountered. The trails and adjacent forest areas were amazingly clean. Most of the trails traveled showed evidence of heavy use but no human activities on areas away from trails were seen.

Some scattered conifer reproduction was observed on all portions of the burn that I walked. Regeneration became quite dense in edge areas adjacent to trees or stands that survived the fire.

Signs of wildlife seen include deer, elk, pocket gophers, and one golden eagle.

***Gold Lake Bog RNA*** was also visited by two volunteers in 2008 in August. They were monitoring recreational use and exploring the bog area by foot and by canoe. Recreation use between Gold Lake and the RNA was low. The RNA was fairly undisturbed though there were indications of use. Amphibians and small fish were present as well as elk. Due to technical difficulties the trip was only two hours however no concerns were raised or reported.

Gold Lake RNA was established in the 1960's marking the boundary with blazes on trees. These boundary trees have been located in the summers of 2007 and 2008 and efforts are underway to develop a boundary description before the boundary trees become so decadent that they are unrecognizable. This is planned for the summer of 2009.

***Rigdon Point RNA*** during a visit in August occasional knobcone pine was sighted while heading north from the southernmost point of the RNA, significant numbers of this pine were observed only along a short 0.2 mi stretch where the road contoured around a side ridge (sloping SW) on which the 1997 test burn is located. Recon on foot indicated that although dead standing and wind fallen knobcone pine were common above and below this section of the 2137 road, the knobcone along the west edge of the road and on the ridge slope below the road appeared to be in better "condition" than the stand above the road. An occasional seedling, and a few younger knobcone pine less than ~ 25' high were found growing along the road. The mature knobcone down slope from the road were

growing among a rather dense stand of Douglas fir; this site appeared to have deeper soil with more moisture compared to the area above the road.

By contrast, the stand of knobcone pine on the side slope above the 2137 appeared more open and with probably more dead trees; the area looked to be markedly drier. Only a single knobcone seeding was found outside of the burn. However, within the test burn site was a vigorous stand of knobcone pine saplings and seedlings as described in Monitoring Report, September 12, 2007 and photos in report dated October 20, 2007. Adjacent to the burn, on the SE side, the forest for about 200yds was quite open being composed of a few live older knobcone pine, and some scattered Douglas fir, madrone and chinkapin. Northwest of the burn, knobcone pine is of course absent; here the forest consists of a closed stand of mature Douglas fir with an occasional sugar pine.

Area of a test burn yielded a vigorous stand of knobcone pine saplings.

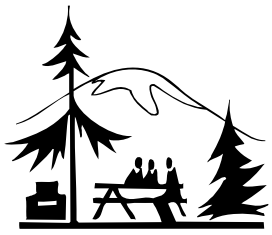
Several stops along the 2137 road north of the burn site side ridge indicated essentially no knobcone with the exception of a short spur road (perhaps not the 040 spur indicated on the map). About 75 yd's down the spur (littered with dumped piles of rock debris) were two large knobcone pines. Both trees were much-branched with copious amounts of cones. Lying near one tree was a large limb, probably broken off last winter, that held several cones, which were partially open having released many seeds. The site was well shaded, which might be the reason that no seedlings or saplings were seen nearby.

Also should mention that no knobcone pines were observed (using binoculars) in a rather open stand of 8-12 ' high conifer regeneration in an ~ 10 acre cutting unit bordering the west edge of the 2137 road just south of MP 6 (SW 1/4 of SW 1/4, Sec 10).

No weeds of significance were seen along 2137 or in parts of the RNA visited.

Sitings or signs of wildlife consisted of a turkey vulture, blue grouse, steller jay, coyote, deer and elk.

***Olallie Ridge RNA*** was not visited this year, however, the boundary was amended to better meet the intent of the Establishment Report and a formal boundary description was completed.



## Recreation

Monitoring Questions 6: Recreation Opportunity Spectrum

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

Standard and Guidelines in 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). Specific impacts or efforts related to retaining different recreation

opportunity settings were noted at Elk Lake area, Waldo Lake Basin, and recreation areas adjacent to lakes and streams on the McKenzie River RD.

In an effort to re-vegetate eroded areas around Lost Lake, near Santiam Pass on the McKenzie River Ranger District, the decision was made to change the dispersed camping area along the shoreline into a developed campground. In 2008, boulders were strategically placed to reduce the size of public use areas and better define camping areas.

Improvements to campgrounds on the McKenzie River are implemented to reduce resource damage.

In 2009, picnic tables, fire rings, site markers, information boards, signage and a fee tube vault will be installed. A fee will be charged to help cover costs of maintaining the campground. A similar approach is underway for Scott Lake, near McKenzie Pass, with work expected to be completed in 2009. At the Santiam Pass Recreation Area, dispersed campsites will be 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.

The Detroit Lake Recreation Strategy is focused on reducing the impacts of use along the river corridor.

Elk Lake Campground frequently exhibits use levels and party sizes or user activities that are inconsistent with the designated ROS setting. Forest Service presence and a variety of management actions were implemented, including designating campsites, site limits, installing picnic tables, fire rings and traffic barriers to restrict resource damage. These actions were implemented at Santiam flats in 2007 and Piety Island in 2008, which are now consistent with the ROS setting. In 2009, use limits will be set for campsites and fees will be charged at Elk Lake. On the Detroit District actions were taken to reduce dispersed camping impacts along the Breitenbush River, including restoration, delineating camping and parking areas, and "Respect the River" educational signing and public contacts.

A decision was made in 2007 to prohibit use of motorized boats on Waldo Lake, following a two-year transition period to educate visitors. Public education and outreach about the change was initiated in 2008. In the Three Sisters, Waldo and Mt. Washington Wildernesses, snowmobile encroachment is on the rise.

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 National Visitor Use Monitoring program results. This monitoring occurs every 5 years.

Results for the Willamette National Forest survey, completed in 2008, are available. 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 2008 was either stable or increased, particularly in areas influenced by urban population centers such as the Detroit Lake Area.

In 2006, the forest developed a recreation site facility master plan (RSFMP) which has helped focus the forest's efforts on managing use along the scenic corridors and waterways. The forest received Recreation Site Improvement funding to make capital improvements in qualified developed settings.

Monitoring Questions 8: Scenic Resources

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

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.


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. The Recreation Pass receipts and Secure Rural School funding have allowed the Districts to accomplish some heavy maintenance projects. The forest has an active volunteer program and a cadre of volunteers are recruited and trained to help with minor trail maintenance. Strong partnerships exist between several districts and user groups across the forest.

Volunteers help maintain trails.

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.

The November 2006 floods severely impacted Pamelia Lake Trail and the Pacific Crest Trail (PCT) crossing at Milk Creek, leaving behind large boulders, rock and mud deposits. To reopen these popular routes, about 1 miles of trail was relocated and reconstructed in 2007 and 2008. This reconstruction included the installation of a new trail bridge on Pamelia, and reestablished a trail prism at the Mill Creek Crossing with the Pacific Crest Trail.

In 2008, Legacy funding reconstructed a section of the North Fork Trail, located in a high priority watershed, to repair a failing retaining wall. While an adequate system of

trails continues to be provided to the visiting public, trail conditions have fallen slightly reflecting maintenance backlogs. A Community Trails Plan was completed by a trail committee comprised of representatives from the Westfir-Oakridge area. The International Mountain Bike Association, in cooperation with forest, local tourism groups and the community trail committee, completed an MOU to designate Westfir-Oakridge as a mountain bike Ride Center in 2008.

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. The sites are managed and maintained to standards higher than would be possible if the Forest were to operate the sites itself. Other sites are managed under the Recreation Enhancement Act (REA) Program, which allows the Forest to retain site revenues to supplement allocated funding and thereby manage the sites to standards expected and acceptable to visitors. Fee increases were implemented at Shady Cove and Trailbridge Campground to help align with operation and maintenance costs, and improve services. A new lookout rental, Gold Butte was brought online and public demand yielded high occupancy rates. Timber Butte Cabin rental is now available for public use as of 2008.

Site improvements at several campgrounds completed in 2008.

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 can be partially addressed as the Forest implements the Recreation Site Facility Master Plan. In 2008, the forest implemented significant Recreation Site Improvement (RSI) projects, based on the recreation site facility analysis (RSFA), to reduce critical deferred maintenance at four high priority recreation sites, including a septic and toilet system replacement at Paradise, new septic installation at Hoover Campground, and site improvements at Paradise, Gold Lake, Cove Creek, Coldwater cove, Olallie, Frissell Crossing, Roaring River, French Pete and Clark Creek Campgrounds, and Echo Day Use Area. CIP Funding in 2009 will design a new water system for Waldo Lake Campground Complex. RSI funds have been secured for additional 2009 projects including upgrade of the Paradise Water System, and to replace toilets at Breitenbush, Whispering Falls, and Big Meadows Campgrounds. Secure Rural School funding has allowed the Districts to accomplish replacement of vault toilets at many developed recreation sites.

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, Hills Creek. The Recreation Site Facility Master Plan (RSFA), proposed in 2006 that the Forest continues to provide a range of sites and activities, with additional development on the Detroit Ranger District. Shady Dell

Campground was operated as a staging area by the Northwest Youth Corp under special use permit on the Middle Fork Ranger District in 2008.

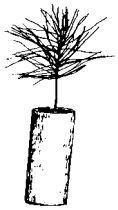
Monitoring Questions 12: Off-road vehicle use

*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?*

The Forest has begun its comprehensive assessment of OHV use on the Forest. Culminating in 2009, trails and roads will be designated for OHV use; the remainder of the Forest will be closed to OHV use. This is part of a nationwide effort to manage OHV use and reduce resource damage and user conflict. On the Forest, pockets of use show signs of resource damage, particularly around existing dispersed recreation sites and near adjacent private lands. A decision for the Santiam Pass Recreation Area was made in 2008 which designates 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 will be implemented in 2009. Snowmobile incursions into the Three Sisters and Mt. Washington Wilderness areas continue to be an issue despite enhanced wilderness boundary signing and patrolling. Enhanced wilderness boundary signing was added on the Taylor Burn Road within the Waldo Lake Wilderness in 2007. Isolated incidences of mudding occur throughout the forest. As part of the Respect the River Program, mudding education including signing and brochures were developed.

Santiam Pass Recreation Area will get designated roads and trails for OHV use.

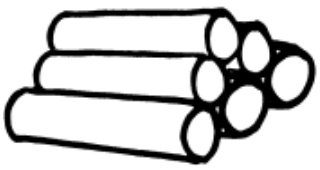
## Timber



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 FY06. In FY8 the Willamette NF assigned target was 69.2 mmbf. Total volume offered in FY08 was 71.8 mmbf. Total volume awarded in FY08 was 72.8 mmbf. Of the volume awarded in FY08, 10.2 mmbf was awarded from a sale offered too late in FY07 to have formal contract award completed by the end of September 2008. The 10.2 mmbf was associated with the first Integrated Resource Timber Contract awarded on the WNF utilizing Stewardship Contracting authorities. Total volume offered and total volume awarded amounts are all included in meeting our PSQ levels. FY08 offer amounted to 64.6% of the PSQ with FY08 award being 65.5%.

The total 72.8 mmbf volume awarded included 70.8 mmbf offered through advertisement in the newspaper, and 2.0 mmbf in products that could be converted and measured in board feet such as firewood, posts, poles, and so on. These "convertible" type products are often sold without advertisement. Less than 1% of the awarded volume came from salvage sales. Approximately 17.9 mmbf was offered initially with no bids received. Subsequent re-offer resulted in award of 9.4 mmbf of this volume in FY'08. Market down turns, increase in projected operational costs, and the decline of the national economic situation all contributed to the "no bid" situation.

The majority of the timber harvesting program in the past few years, including FY08 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.

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?*

Answering the question above involves looking at stocking levels, growth responses, fertilization accomplishments, use of growing stock, insect and disease on the forest.

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. The forest is moving away from fertilization due to the high cost of fertilizer, which negates the economic benefit of the increased growth.

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 779 acres reported as being harvested using stand regeneration harvest method and planted in FY 2003. Of these, 680 acres (87%) were reported as being certified as reforested. Of the non-certified areas, 80 acres (10% of the total) were burned in the B and B fire, destroying the originally planted trees, and most of these acres have subsequently been planted. The data source for this information is the Stand Tracking Database, the FACTS database and the VEGIS database. Stocking is being established and maintained at the recommended levels and within the required time.

Planned created openings are much smaller than the maximum limits, and the size limits are meeting the objectives of ensuring a diverse forest age pattern.

Timber Stand Improvement (TSI) accomplishments of thinning, release, and fertilization totaled 3,571 acres. Accomplishments are about one quarter 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. In 2008 bear damage was common throughout the forest, and was noted as high North of Lookout Point reservoir and north of Christy Flats. There are endemic levels of fir engraver and Douglas-fir bark beetle at levels that are considered to be normal.

## Transportation for 2008

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 2008 and 178 miles of road reconstruction (see table below). New road construction is far below estimation in the Forest Plan of 40 miles. This year road reconstruction is very close to the Forest Plan estimate of 174 miles. However, on the average, over the last several years, road reconstruction falls far below the threshold of variability.

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.

Due to the fundamental changes to the timber harvest targets and drastically reduced road maintenance funding, the miles of road maintained for passengers 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 13 % above the threshold of variability for roads suitable for high clearance vehicles.

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 | |
|---|---|---|---|
| Miles of road constructed | 0.0 | Miles of road decommissioned | 0.0 |
| Miles of road reconstructed | 178 | | |
| **Road Suitability** | | **Traffic volumes** | |
| Roads Suitable for Passenger Cars | 556 | | |
| Roads Suitable for High Clearance Vehicles | 5,002 | Traffic volumes were not monitored in FY08 | |
| Closed Roads | 978 | | |
| Total Miles | 6,536 | | |

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.

CONTENTS

Summary Results
Detailed Expenditures
Forest Receipts
Payments to Counties

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.

ECONOMIC & SOCIAL RESOURCES SUMMARY FINDINGS

| Monitoring Question | Monitoring Activities | Monitoring Results | Supplemental Information |
|---|---|---|---|
| ***Economic & Social*** | | | |
| 41 Economic & Social | Review of economic reports, agency policies, and public contacts | Results OK | Economic and Social FY08 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 FY08 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 initiatives, plans, and laws passed over the course of 2008.

The Forest Service, the Willamette included, have historically been focused on water and timber but that focus has now broadened to included 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 2008 FINAL EXPENDITURES

| Description | FY081 |
|---|---|
| Facilities Capital Improvs & Mtce. | 3,630,107 |
| Flood Activities | 0 |
| Forest Products | 6,289,577 |
| General Administration | 3,837,392 |
| Inventory and Monitoring Activities | 285,007 |
| Knutson/Vandenburg Funds [1] | 3,536,190 |
| Land Management Planning Activities | 65,818 |
| Landownership Management | 1,248,698 |
| Law Enforcement | 0 |
| Minerals and Geology Management | 271,978 |
| Payment to Counties | 3,716,898 |
| Recreation/Heritage/Wilderness | 1,756,606 |
| Road Capital Improvs & Mtce. | 1,339,568 |
| Senior Program | 0 |
| State and Private Forestry | 0 |
| Trails Capital Improvs & Mtce. | 503,512 |
| Vegetation and Watershed Management | 491,314 |
| Wildland Fire Management | 4,489,487 |
| Wildlife and Fisheries Habitat Management | 774,872 |
| **TOTAL** | **32,299,249** |

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

| Forest Receipts | Payments to States |
|---|---|
| | Fiscal Year 2008<br>$36,491,585[1]<br>[1]Based on Title I, Title II, Title III funds identified in Secure Rural School and Community Self-Determination Act of 2000. |
| Fiscal Year 2008 Receipts<br>4,315,897 | **County Breakdown** |
| | Clackamas $10,826<br>Douglas $1,131,538<br>$ 2,906 |
| 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. | Lane $22,538,278<br>Linn $10,253,598<br>Marion $2,554,439 |

# 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 2008 to focus specifically on compliance with the Forest Plan.

CONTENTS

Forest Supervisor Reviews
Summary Results

## IMPLEMENTATION MONITORING SUMMARY FINDINGS

| Monitoring Question | Monitoring Activities | Monitoring Results | Supplemental Information |
|---|---|---|---|
| ***Standards and Guidelines*** | | | |
| 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 three of the districts and monitored four projects in 2008. 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 as well as 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 2008

| Ranger District | Activity Monitored |
|---|---|
| Detroit | Breitenbush/Devils Creek Summer Homes<br>Upper North Santiam Dispersed Recreation |
| Sweet Home | Three Thin Re-offer Timber Sale |
| McKenzie River | Nugget Timber Sale |

## *Forest Supervisor Reviews*

### Breitenbush/Devils Creek Summer Homes Natural Fuels

***Findings and Comments***

- The review highlighted some of the potential overlaps between both the fuels and the riparian treatments.
- The fuels project is a good example of a proactive approach dealing with the cabin owners
- The project was good examples of relationship building, both internally between departments and externally with different users/customers. The Forest needs to be looking five years out building an action plan for restoration. This will allow prioritization and time to seek and secure funding.
- The SO is encouraged to see that the District is starting a natural fuels treatment program and is working with the cabin owners on it.

- The fuels treatment project was good, but recommends that the District inquire about and if necessary, develops an evacuation plan with the cabin owners or the association.
- The District needs to ensure the invasive species standards are considered and applied to these smaller soil disturbing projects.
- The District did not have a silvicultural prescription for the project's fuel treatment. Forest Service policy is that all vegetation treatments, which include treating natural fuels, have a silvicultural diagnosis and prescription.
- The SO supports the idea of doing the level of NEPA analysis and documentation that is appropriate for the project.
- The District (and Forest) needs to ensure that the NEPA analysis and documentation is commensurate with the scope, scale, and perhaps the controversy of the project.

### Upper North Santiam Dispersed Recreation Project

Straight Creek site – The review team visited the Straight Creek restoration site and observed the following actions that were done as stated in the Decision Memo:

- Regulate vehicle parking – user defined roads were block with boulders and vegetation and a defined parking area was constructed adjacent to the FS road.
- Area posted to explain the changes in the area – A sign was posted and readily visible from the new parking area explaining the purpose and need for the restoration work.
- Define walkways, camping areas with fencing, signs – A split rail/pole fence that was consistent with the visual resources was in place to narrow the pathway to the river and to discourage additional site expansion into undisturbed areas.
- Site restoration, soil de-compaction – a long-time dispersed camping site had been de-compacted with an excavator.
- Site restoration, vegetation – the treatments had been done just a year ago and there was no visible signs of natural re-establishment of vegetation in the treated sites. The District was considering planting the rehabbed areas either with transplants or seedlings. The District should determine why there has been no natural re-vegetation (perhaps site conditions) and evaluate the potential success of planting before proceeding.

Another site in the Straight Creek area was visited and results were similar, all actions were consistent with the Decision Memo.

***Findings and Comments***

- The District has been able to accomplish work on some of the dispersed recreation issues in light of the fact that there is little appropriate funding for doing so. The District has been creative and effective in identifying and using creative funding to get some of these much needed projects done.
- The dispersed recreation rehabilitation was good because site-specific prescriptions and treatments were used to accommodate the individual needs and characteristics of each site.
- The District needs to ensure the invasive species standards are considered and applied to these smaller soil disturbing projects.
- The project is a good example of resource needs on the Forest where we cannot rely on appropriate funding and successfully address these needs. The operational model should be to use the limited appropriated funds for planning/NEPA and seek out other sources of funding for implementation.

Three Thin Re-offer Timber Sale (Gordon Three EA)

***Findings and Comments***

- The quality of the sale preparation and layout and the sale administration are of high quality.
- The District did a good job of documenting modifications to the project and providing for interdisciplinary review of the modifications.
- It was noted that future formal communications between the FS and the purchaser on matters pertaining to the contract (i.e. modifying or waiving provisions) should be between the Contracting Officer and the Purchaser, rather than the District Ranger and the Purchaser. The District did a good job of documenting these waivers.
- The Forest needs to look at ways to make sales more viable, attract more potential purchasers. The seasonal restriction waivers on this sale are one way of doing that and the SO encourages Districts to continue to looking at those options where it is feasible.
- The District should document any necessary culvert installations with a memo to the project files. If it was found to be consistent with the intent of the EA and BA, documentation in the project files would be sufficient.
- It was also noted that instream restoration work was included in the EA as part of the project but was not covered by the project fisheries BA. The work should be covered by the restoration programmatic BA.

- Information in the Biological Assessment (fisheries) needs to be consistent with the EA and with sale implementation. The Districts need should strive to make the language in the BAs flexible enough to accommodate what is necessary to implement the project while meeting the resource objectives.
- The Forest needs to think about ways to better describe to the public and regulatory agencies the final product we want and expect to get on the ground from thinning projects.
- As a Forest, we need to get the Level 1 consultation team out on the ground to look at implemented thinnings and develop a better understanding of the implications and impacts of various prescriptions and restrictions when implemented.
- There were questions whether the minor differences in the DxD prescriptions within a timber sale result in treated stands that are meaningfully different or measurably different from each other. If not, prescriptions should be simplified and standardized.
- As a Forest, the wildlife and silviculture group need to review the Forest Plan LSR direction for down wood in thinnings, both matrix and LSR. Is it a sound biological practice to remove the largest trees from the stand early in stand development for dead wood habitat? This issue should then be forwarded up to the RO/LSR working group for action/feedback.
- There was some discussion about the appropriateness of designating openings as permanent transportation system features in an LSR.
- The special habitats were correctly protected during the harvest with no-cut buffers marked with boundary trees on the ground and identified on the timber sale area map.
- The riparian area (intermittent stream) buffers were reviewed in several units. Some marked boundary trees were closer to the streams then prescribed in the EA. The review team found that the marked boundaries still protected the stream and met riparian objectives. The interpretation of how marked boundary trees are used for spacing (spaced off of) in Designation by Description (DxD) had changed since the sale was laid out. And it was acknowledge that straight line no-cut boundary in a DxD prescription is difficult to achieve.
- The review team discussed the slash loading and consensus was that the unit reviewed was within the Forest Plan objective of 7-11 tons per acre on 0.1 – 3" fuels.
- The review team believes that the differences between 14, 15, and 16 foot spacing in the different DxD prescriptions are not biologically significant to wildlife and not observable in the implemented project. Comments were also made that it does make it more complex for the operators/fallers when the prescriptions change from unit to unit.

- Slash treatments and BD funds are an ongoing topic on the Forest and we need to develop consistency and rationale for the type of slash treatments that are prescribed for commercial thinnings.
- It would be good for the District to resume interdisciplinary monitoring trips on completed projects.

### Nugget Timber Sale

***Findings and Comments***

The on-the-ground results generally meet the expectations and objectives identified in the EA for the units reviewed.

The process of consultation and level of documentation for consultation with NMFS and USFWS has changed greatly in the 10+ years since the Foley Ridge EA. These changes lead to some confusion about proposed listed versus listed fish species with the regulatory agencies in the document.

Forest Supervisor intend to have a discussion with the Level 2 consultation team to make it a priority to get the Level 1 team (fisheries) out in the field to see examples of project implementation. The goal is to develop a common understanding about the nature of the projects we are consulting on and the levels of impact when they are implemented.

Under the current timber sale contract direction, the purchaser can not be required to perform various mitigating measures type of work, i.e. actions not directly related to the felling, yarding, hauling of the timber products.

The review team found the riparian reserve no-harvest buffers on a Class II-IV stream in Unit 10 to be marked appropriately and consistent with the Forest Plan S&Gs and the Horse Creek WA.

A skid road in the Unit 10 was reviewed. Some of the mitigation measures were implemented (waterbarred and planted with tree seedlings) but the skid road was not ripped (as per documented in EA mitigation). No erosion was noted and the erosion control objectives appeared to have been met. The need for or the advisability of deep ripping was discussed because of potential damage to leave tree roots,

| | |
|---|---|
| Project implementation and documentation is checked for consistency with current direction. | The review identified the need to follow up changes better with documentation. A suggestion would be to establish a standard operating procedure for routing implementation changes through the proper specialists and line officer. |

Any invasive plant mitigating measures such as weed control, monitoring, equipment washing and other KV funded activities that the District's prescribe for the purchaser to do as part of the TS contract should be prudent and verified based on site-specific ground conditions.

District needs to continue to evaluate the resource needs for the sites being treated and whether required treatments necessary to meet the objectives on that site. This is important regardless if it is a purchaser requirement or collected funds (BD, KV).

The review team verified the designation (marked and identified on the sale area maps) and protection of grouped leave trees to provide for future wildlife trees and small reserves within units.

The review team didn't measure the amount of down woody material, but it appeared to be abundant (mostly felled trees that had been yarded from the decks back into the unit) and was supplemented by the tops of trees selected for snags.

The Forest needs to have a discussion about snags, thinning, and forest-wide consistency.

The slash treatments appeared to have met the Forest Plan fuel objective of 7-11 tons per acre of 0.1 – 3" fuels.

The review showed several opportunities to be more descriptive (desired results, objectives) and less prescriptive in the requirements and mitigation measures for fuels treatments.

The review team verified that a wildlife (big game) visual screen was marked and protected during the harvest and appeared to be an effective visual barrier into the unit from the paved road.

The District needs to understand the various funding limits, but be aware of options and not let funding become a barrier to treating identified needs. As a Forest, we need to include the FS funding, budgeting processes as part of the education process for new employees.

The review team observed a temporary road not identified in the EA as part of the logging systems needs and no documentation of the approval for temporary road was located in the timber sale folders. Mitigating measures (loader pinching and planted to seedlings) had been applied to the road to rehabilitate the area.

A unit prescribed for a shelterwood with heavy reserves was reviewed. The information in the EA wasn't clear on what the final target stand was, if the current overstory would be removed at some point, and the type of second stand that was to be established. Because of this uncertainty, there seemed to be mix of expectations about future stand management such as the need to plant the unit instead of relying on natural regeneration, re-introducing fire, another timber removal entry, etc.

Districts need to ensure that the silvicultural prescriptions for stand treatments have the necessary level of detail to make current decisions and inform future planning.

# Evaluation and Recommended Actions

This section of the monitoring report was traditionally reserved for Recommended Action items applied to the Forest Plan. Recommended Actions items are developed as a result of our monitoring efforts over the year. This section proved to be invaluable source for progress during the first several years of plan implementation. Recommended Action items resulted in the correction, where needed, of estimates in the Forest Plan, changes to management practices as needed to comply with the Forest Plan, clarifications to the Forest Plan, and many other adjustments including amendments to the Forest Plan.

CONTENTS

Databases
Natural Range of Variation
Monitoring Plan Study

The Forest has been implementing the Forest Plan since 1990. The Forest personnel routinely apply all standards and guidelines (S&Gs). In review of this Monitoring Report, we did not note areas that needed attention that could be accomplished with a Recommended Action item. This is not to say improvements to the Forest Plan are no longer needed. Many changes are needed, but primarily due to the Plan's age, this would result in recommendations that cannot be completed within a year or two (the expected timeline for results from Recommended Action items).

The Forest IDT agreed that a better use of limited resources is to focus on Forest Plan revision, scheduled to begin in FY2011. Some recommended actions are new and identified this year. Items that will be our focus will include:

- Establish a priority system for trail funding.
- Incorporate updated deer and elk habitat modeling based on upcoming research.
- Develop a scientifically credible process to determine a Natural Range of Variation by plant association.
- Conduct a retrospective evaluation of all past Monitoring Reports to identify trends developed in resource areas that will need attention in the Forest Plan revision. Past reports will also highlight issues best addressed with a holistic view of long-range forestwide plan

The Forest will continue to monitor and identify areas that can be improved without the need for a Plan revision.

The following actions are recommended to begin before or during Forest Plan Revision.

## Trails

Establish a priority system for trail 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 except on a limited number of trails. Trails that do receive maintenance are normally restricted to one visit a year, usually in the summer.

The Forest's emphasis in 2008 was to continue to update the Trail INFRA structure database, including population of the new Access and Travel Management Module, and completing the Travel Management Objective for each trail. Once this work is completed, the Forest will be prepared for a forest-wide trails assessment process, similar to the process used for Recreation Facility Analysis. We are awaiting national/regional direction to begin that process. The process is intended to identify which trails are sustainable and are supported by the public and partners to maintain.

## Elk Habitat

Incorporate updated habitat modeling into effects analysis based on upcoming research.

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).

The Forest Service recognizes that recent research and shifting environmental conditions have changed the management emphasis for deer and elk. New research results show an increase emphasis on forage quality is needed in light of the cessation of clearcutting New results from updated habitat modeling will be incorporated into the effects analysis when available and will be considered when the Forest Plan is revised. The Forest is still waiting for an updated model.

## Natural Range of Variation

Develop a scientifically credible process to determine a Natural Range of Variation by plant association.

Procedures for these assessments are being developed as more national forests complete plan revisions under the new regulations. These assessments are anticipated at the subregional level, and will require analyses that go beyond a single national forest boundary. Examples of this type of assessment can be seen in the Fire Regime Condition Class analysis. In a FRCC analysis the departure of the vegetative conditions from the reference condition is measured.

Formal assessment to answer MQ 40.1 will take place during plan revision. Given the modest scale of timber harvest under the current plan and budget levels, it appears unlikely that a catastrophic loss in plant association group/seral stage biodiversity is occurring.

## Monitoring Plan Study

Conduct a retrospective evaluation of all past Monitoring Reports to identify trends developed in resource areas that will need attention in the Forest Plan revision.

Forest Plan Revision has been rescheduled for 2011. This monitoring study is designed to inform Forest Plan Revision team of needed changes to the current Forest Plan. A study like this is best completed approximately 1 year before revision and so has been rescheduled to 1 to 2 years before Forest Plan Revision.

# Accomplishments

The following table compares the actual accomplishment of selected Forest Plan objectives during the fiscal year 2006 (FY06), October 2005 through September 2006) 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.

## SUMMARY OF PROGRAM ACCOMPLISHMENTS

| Output or Activity | Units | Projected Forest Plan Level | FY 2008 Accomplishment | | Cumulative Avg. Accomplishment [1] | |
|---|---|---|---|---|---|---|
| | | Units | Units | % | Units | % |
| **RECREATION AND WILDERNESS** | | | | | | |
| National Forest Visits | Visits | -- | 1,360,400.0 | Projected recreation estimates made in the Forest Plan no longer apply. Methods and units for measuring recreation use have changed substantially. The units reported represent 2004. Next reporting year 2009. | | |
| Site Visits | Visits | -- | 1,656,600.0 | | | |
| Wilderness Recreation Use | Visits | -- | 134,700.0 | | | |
| Trail Construction/Reconstruction | Miles | 78.0 | 2.0 | 8% | 19.5 | 24% |
| Developed Recreation Construction | PAOT | 327.0 | 0.0 | 0% | 62.8 | 19% |
| Developed Recreation Reconstruction | PAOT | 844.0 | 480.0 | 57% | 264.8 | 31% |
| **TIMBER MANAGEMENT** | | | | | | |
| Timber Sale Program | MMBF | 120.0 | 72.8 | 61% | 52.2 | 43% |
| Timber Harvest Treatments | | | | | | |
| *Regeneration Harvest* | Acres | 3,144.0 | 0.0 | 0% | 357.0 | 13% |
| *Commercial Thins* | Acres | 2,808.0 | 901.0 | 32% | 1,453.0 | 52% |
| *Other* | Acres | -- | 104.0 | -- | 341.0 | -- |
| Timber Stand Improvement | Acres | 18,100.0 | 3,571.0 | 20% | 8,745.0 | 48% |
| Reforestation | Acres | 3,144.0 | 730.0 | 23% | 1,347.3 | 43% |
| Fuel (Slash) Treatment | Acres | 3,144.0 | 1,459.0 | 49% | 1,737.7 | 55% |
| **ROAD MANAGEMENT** | | | | | | |
| Road Construction | Miles | 40.0 | 0.0 | 0% | 3.6 | 9% |
| Road Reconstruction | Miles | 174.0 | 178.0 | 102% | 113.8 | 65% |
| Roads Closed | Miles | 890.0 | 978.0 | 110% | 827.6 | 93% |
| Roads Suitable for Passenger Car | Miles | 1,580.0 | 556.0 | 35% | 1,437.5 | 91% |
| Roads Suitable for High Clearance Vehicles | Miles | 4,530.0 | 5,002.0 | 110% | 4,589.3 | 101% |
| ~~**FISH/ WATER/ WILDLIFE/ LIVESTOCK**~~ | | | | | | |
| Watershed Improvement | Acres | ~~533.0~~ | ~~213.0~~ | ~~40%~~ | ~~427.9~~ | ~~80%~~ |
| Anadromous/Inland Fish Habitat Improvements | Miles | ~~12.0~~ | ~~60.0~~ | ~~508%~~ | ~~16.4~~ | ~~139%~~ |
| 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 | -- | 18,856.0 | | | |

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.

[1] Cumulative Average Accomplishment is reflective of the average since the Forest Plan was implemented. Timber management numbers are an exception. The accomplishment is 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.

# 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 nonsignificant 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** | 08/05/1991 | Corrects errors and omissions in Forest Plan (errata). |
| **4** | 08/05/1991 | Requires roadside brush management methods be consistent with scenic resource needs and allows machine mowing. |
| **5** | 08/05/1991 | Corrects mapping error in boundary of Diamond Peak Wilderness. |
| **6** | 08/05/1991 | Changes and clarifies direction about retention of downed wood to better meet functional and operational objectives. |
| **7** | 03/22/1992 | 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. |
| **8** | 03/22/1992 | 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. |

FOREST PLAN AMENDMENTS, continued

| Amendment | Implementation Date | Type of Change |
|---|---|---|
| **9** | 02/20/1992 | 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** | 03/14/1992 | Changes about 67 acres in Spring Butte area (Rigdon) from General Forest (MA-14a) to Special Habitat Area (MA-9d). |
| **11** | 03/14/1992 | Changes about 65 acres in Beaver Marsh area (Rigdon) from Special Interest Area (MA-5a) to Special Habitat Area (MA-9d). |
| **12** | 04/04/1992 | 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** | 07/29/1992 | 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** | 07/29/1992 | 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** | 07/06/1992 | Adds standard and guideline MA-1-20a to clarify that the visual quality objective for wilderness is Preservation, and deletes FW-059. |
| **16** | 07/29/1992 | 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** | 02/17/1993 | 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** | 02/17/1993 | 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** | 06/02/1993 | 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. |
| **20** | 05/17/1993 | 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. |

FOREST PLAN AMENDMENTS, continued

| Amendment | Implementation Date | Type of Change |
|---|---|---|
| **21** | 06/23/1993 | 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** | 01/05/1994 | Establishes the Forest's Special Forest Products Management Plan, including implementing direction through several new Forest-wide S&Gs. |
| | 05/20/1994 | 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** | 09/29/1994 | Changes 1/2-acre in the Westfir area from Scenic-Partial Retention (MA-11c) to Special Use-Permits (MA-13a). |
| **25** | 05/26/1995 | 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** | 05/17/1995 | 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** | 06/22/1995 | 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** | 01/12/1996 | 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** | 04/17/1996 | 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** | 05/15/1996 | Established the Rigdon Point RNA. |
| **32** | 09/04/1996 | 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. |

FOREST PLAN AMENDMENTS, continued

| Amendment | Implementation Date | Type of Change |
|---|---|---|
| **33** | 01/23/1997 | 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** | 01/23/1998 | 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** | 07/08/1997 | Establishes new S&Gs for four sensitive plant species; Gorman's aster, *Aster gormanii;* Common adders tongue, *Ophioglossum pusillum;* selected populations of tall bugbane, *Cimicifuga elata;* and selected populations of Umpqua swertia, *Fraseran umpquaensis.* |
| **37** | 05/19/1997 | Assigns initial allocations for about 2,180 acres of acquired lands located on Detroit and Sweet Home Ranger Districts. |
| **38** | 01/21/1998 | Changes management emphasis to provide for a proposed action to build a replica fire lookout station museum on the Lowell Ranger District. |
| **39** | 06/01/1998 | Establishes two new communication sites on the Sweet Home Ranger District. The development involves less than 1/4 acre. |
| **40** | 07/13/1998 | Establishes the 2,877 acre Torrey-Charlton Research Natural Area (RNA). The RNA spans over both the Willamette and Deschutes National Forests. |
| **41** | 08/24/1998 | Establishes two new communication sites on the Detroit Ranger District. The development involves less than 1/4 acre. |
| **42** | 08/30/1999 | Allows the Forest to continue a program of noxious weed treatment based on the type of infection. |
| **43** | 02/15/2000 | 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] | 07/01/2002 | 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. |
| **45** | 06/16/2004 | 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. |

FOREST PLAN AMENDMENTS, continued

| Amendment | Implementation Date | Type of Change |
|---|---|---|
| | 10/11/2005 | Preventing and Managing Invasive Plants EIS. Under this decision, all National Forests in the Region will be released from direction established by the1988 Record of Decision for Managing Competing and Unwanted Vegetation (ROD) and 1989 Mediated Agreement for invasive plant management. .Invasive plant management direction will be added to all National Forest Plans in the Region. |
| **46** | 08/22/2006 | 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** | 04/16/2007 | 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** | 06/25/2007 | 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** | 08/31/2007 | 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** | 04/18/2008 | 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. |

# Forest Plan Updates

Forest 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.

There have been eight updates to the Forest Plan:

FOREST PLAN UPDATES

| Update | Implementation Date | Type of Change |
|---|---|---|
| **1** | 07/06/1993 | 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. |
| **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. |

## FOREST PLAN UPDATES

| Update | Implementation Date | Type of Change |
|---|---|---|
| **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** | 01/23/1997 | 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** | 08/31/1998 | 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** | 04/03/2000 | 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. |
| **9** | 04/09/2001 | 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** | 06/21/2006 | 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** | 9/05/2008 | Adds the McKenzie Bridge Airstrip as a Management Area 13b. |

# List of Contributors

The principal contributors to the 2008 Monitoring and Evaluation Report are listed below. Please contact one of us if you have questions or want further information abut the reported results.

| | |
|---|---|
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## Acknowledgments

Monitoring activity on the Forest involves many people, far too numerous to list here. A few of these contributors or their organizations are acknowledged in the Findings section as their related work is presented. In addition, many volunteers contributed their time and expertise, as did Ranger District employees across the Forest.