United States
Department
of Agriculture

Forest
Service

**Pacific
Northwest
Region**

Monitoring and Evaluation Report

Willamette National Forest

Fiscal Year 2004

Photo date: 1916 *Marion Lake, Willamette National Forest*

MONITORING AND EVALUATION REPORT

This report focuses on the monitoring and evaluation process described in Chapter V of the Forest Plan. Though not all the questions posed in Chapter V of the Forest Plan is evident in this document, each question is addressed over the course of the year.

If you have not received a copy of the 2004Annual Report and would like a copy, please contact Patti Rodgers(541-225-6305) or write: Willamette National Forest; PO Box 10607; Eugene, OR 97440.

CONTENTS

List of Contributors

Deigh Bates	*Hydrologist*	Kristi Miller	*Timber Staff*
Ken Byford	*Wildlife Biologist*	Dani Pavoni	*Recreation Planner*
Neal Forrester	*Interdiscplinary Team Leader*	Allison Reger	*Analyst (Economics)*
Cathy Lindberg	*Archaeologist*	Patti Rodgers	*Public Affairs Specialist*
Jennifer Lippert	*Botanist*	Palmer Utterback	*Civil Engineering*
Cindy McCain	*Ecologist*	Fred Wahl	*Wildlife Biologist*
Phil McCulley	*Fire and Fuels*		

Forest Supervisor

I am pleased to present the Willamette National Forest's 14th Annual Monitoring and Evaluation Report for your review.

The climate in which we began implementing the Forest Land and Resource Management Plan (LRMP), in 1991, has changed considerably. The largest change occurred in 1994 when the Northwest Forest Plan amended our LRMP by establishing new land allocations.

We have since experienced a great deal of change due to continuing reductions in the Forest's operating budget. The Forest, in turn, has increased efforts to develop more partnerships with our local communities and with other land management agencies. In this way, we can meet our common goals while implementing the Forest Plan.

The Forest Plan is a dynamic document, designed to adapt to changing circumstances. I am proud to say that the Forest has kept its promise to change as the world changes in order to keep our plan fresh and responsive. The Willamette is currently scheduled to begin Forest Plan revision in 2009.

Until we begin Plan revision, it is my commitment to keep you informed of the results of monitoring through this report; however if you would like more information, feel free to contact the Forest or visit our website at www.fs.fed.us/r6/willamette.

Your continued interest in the Forest Plan is just one way for you to stay current with activities on your public lands.

Sincerely,

DALLAS J. EMCH
Forest Supervisor
Willamette National Forest

Introduction and Background

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

The Forest Plan designates areas for resource management emphasis based on the capabilities of these areas to provide differing levels of goods and services. The Plan also established Standards and Guidelines (S&Gs) that direct the management of these areas.

In April 1994 the Forest Plan was amended by what is referred to as the Northwest Forest Plan (NWFP). The amendment established additional management areas and S&Gs.

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 the Forest Plan analysis are still valid. Monitoring coupled with evaluation provides a control system over management activities on the Forest.

Our monitoring is accomplished with three categories of monitoring:

Implementation Monitoring is used to determine "Did we do what we said we were going to do?"

Effectiveness Monitoring is used to determine "Are the management practices producing the desired results?"

Validation Monitoring is used to determine "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. Evaluation provides a feedback mechanism identifying whether there is a need to change how the Forest Plan is being implemented.

The Monitoring Questions addressed throughout the year can be found at www.fs.fed.us/r6/willamette/manage/fpmr/2002/mon_questions.pdf

Physical Resources

Water quality

The Willamette National Forest conducted water quality monitoring at 100 stations during 2004. A detailed discussion and display of the following information can be found on the FS web site at: http://www.waterquality.good.stuff. Forest watershed personnel closely follow the ORDEQ protocols for data collection, storage and analysis and because of this we can be more confident that ever that the data we have is of the highest quality, accurate and credible.

The Middle Fork RD monitored a total of 32 sites this year primarily for water temperature. Three of those stations had equipment lost, fail or had to be returned to the factory to download the data. Five water temperature data loggers installed in the Fall Creek drainage tributaries (Andy, Bedrock, Slick, Jones, and Timber Creeks), as a group, failed to launch and no data was recorded. An additional recorder in Furnish Creek, in the Salmon Creek drainage, failed to launch as well. Also seven recorders installed for the purpose of monitoring temperatures in Bull Trout streams remain in place until May 15 and are not available for this report.

The maximum of the 7-day moving average for water temperature varied from site to site between this year and last with some sites recording a reduction in the value and others and increase. The maximum increase recorded was 0.79C on Eight Creek in the North Fork of the Middle Fork Willamette River watershed. The maximum decrease recorded 0.35C on Fall Creek at the Forest boundary. Of the 15 operational stations monitored 14 recorded Moving Max 7-day average that were in excess of Oregon State Water Quality Standards for water temperature. In all there were 4 sites that recorded a slight decrease in water temperature and 7 sites that recorded an increase from 2003. No increase or decrease greater than 1.0C was recorded at any site.

The McKenzie River RD monitored a total of 42 sites this year primarily for water temperature, one of the instruments was stolen and no data is available. This is 6 more stations than were monitored in 2003. Of the 42 stations monitored in 2004, 19 stations had Max 7-day average readings in excess of currently established water quality standards for the stream in question. In some cases the standard is 12.0C for Bull Trout waters. The station recording the highest 7-day maximum value was the Lower Mill station on Mill

creek with a reading of 20.8C on August 18 this station is located below private land. Anderson Creek below Highway 126 recorded a high value of only 6.9C for the year. There was an instrument failure at the Rebel Creek site and possible contact with the air at Quentin Creek Site making the readings somewhat suspect.

The Sweet Home RD monitored 6 sites in 2004. Of the six, two stations had Max 7-day average readings in excess of currently established water quality standards for the stream in question. The station recording the highest 7-day maximum value was Quartzville Creek #7 – Rd 11X- Sec 31 with a value of 69.0 F on August 10.

No additional streams were listed on the Sweet Home R.D. in the Oregon DEQ 303(d) list of Water Quality Impaired Waterbodies from the 1998 to 2002 list.

The Detroit RD monitored a total of 20 sites this year which is 1 less than the number monitored in 2003. Six of the sites were monitored in conjunction with the City of Salem and the U.S. Geological Survey. Multiple parameters are collected at the Cooperative sites. The other sites are primarily monitored for water temperature. Of the 20 sites, 3 sites had Max 7-day average readings in excess of established water quality standards for the stream in question. The highest recorded value was at Blowout Creek at the Road 10 Bridge which recorded a value of 70.2 degrees F at the end of July.

Turbidity Monitoring in Cooperation with the USGS – Portland District: One significant event was measured in late August 2004 during a intense summer event. The turbidity was extensive across the Cascades in response to this unusual rain storm. Observations following this high intensity storm showed damage to trail and road networks across the Forest.

Physical Resources

No additional streams were listed on the Detroit R.D. in the Oregon DEQ 303(d) list of Water Quality Impaired Waterbodies from the 1998 to 2002 list.

Additional Monitoring Activities: Waldo Lake: One sampling location was monitored on 4 separate occasions during the summer season. Established protocols were followed which include insitu measurements and grab samples.

Hills Creek Reservoir: An *Anabaena flos-aquae* algae bloom was monitored on Hills Creek reservoir by Middle Fork RD and US Army COE personnel. These types of blooms are potentially toxic to both humans and pets. Samples were processed for quantity and type of algae present and also for cyanotoxins. A general water quality advisory was posted for water contact recreation during the months of June-September.

Cougar Reservoir: Continued collection of vertical water quality profiles for temperature, turbidity, pH, DO, and conductivity at 3 locations in Cougar Reservoir and 2 locations in Blue River Reservoir from April through November for USACOE.

FERC re-licensing studies: Ongoing consultation and support to Stillwater Sciences on numerous hydrologic and geomorphic studies in the Upper Mckenzie Watershed, associated with the Carmen Smith Hydropower Re-licensing effort. Studies were developed and finalized this year, and in many cases, year one data were collected and reviewed.

Air quality

The Willamette National Forest has been part of a multi-Forest, coordinated program to monitor air quality with lichens. From 1994-1997 lichen survey and tissue analysis data were collected on nearly all of the 3.4 mile CVS plots. In 1998 and from 1999-2000, lichen tissue data were collected every two months in the vicinity of the NADP station on the H.J. Andrews Experimental Forest. In 2004 1/4 of the 3.4 mile Willamette CVS (now FIA) plots were sampled, and another 1/4 are planned for summer 2005.

In all 53 plots were revisited last summer, resurveying the lichen communities and collecting two lichens for elemental analysis. Species identifications should be done in early March. Laboratory results from the University of Minnesota have not yet been received. In summer 2005 we will revisit the set of plots we visited in 1996-- about the same number as last year.

Nearly all Willamette NF air scores fell within the two best air quality categories. Only 10 of the 235 plots, or <5% of plots, had air scores in the fair range. Fair is a borderline air quality score in which sensitive lichens may still be present but often are not. In contrast, about 14% of the total land area of western Oregon and Washington was rated fair and 24% was given a worse pollution rating.

In addition to the lichen survey the McKenzie River RD continued operation of the Three Sisters IMPROVE site for the Region, with 100% data collection success.

A more in-depth discussion on 2003 Air Quality Monitoring can be found on the Willamette N.F. web site at: http://www.fs.fed.us/r6/aq.
Smoke related monitoring:
In FY2004 there were no deviations from the Oregon State Smoke Management daily forecast nor did intrusions occur in designated or smoke-sensitive areas in 2004. The Forest also monitors Class I Wilderness air quality impairments. There were no reported or measured impairments of visibility standards in Class I areas on the Willamette National Forest in fiscal year 2004. Measurements were based on visibility monitoring by fixed detection sites on the Forest.

Fire & Fuels

The Forest completed 985 acres of fuel treatment exceeding the harvest related fuel treatment levels of 900 acres predicted in the Forest Plan for 2004. For 2004, acres treated started to show a slight upward trend in fuel treatment. With increasing harvest level, the future outlook is for a continuing upward trend in fuel activities on the Forest.

A total of 20 acres burned as a result of wildfires in 2004 compared to 25,008 acres burned in 2003. This is an example of variable fire seasons can be year to year, decade to decade.

Riparian Aquatic Habitat & Streambank Stability

A unit with two Class IV riparian buffers was visited in 1997, and in 1999, and once more in 2004. The District had formally revised the riparian reserves on two Class IV streams revisited to 50 feet on each side to protect streambank stability. This is a reduction from the default protection widths. Conditions were

found not to have changed much since the earlier visit, though some upward extension of scour above the riparian reserves was noted. Overall, channels and vegetation appeared stable. The monitoring reported this conclusion: Riparian reserve design did not leave enough buffer to account for headward extension of scour (perhaps associated with decreased evapotranspiration). Neither did the design adequately deal with topography and exposure to prevent direct sun effects clear to the channel on the south side of the buffer. The growing conditions on the unit have limited recovery of the shrub and tree layer which eventually will supply shade to the Class IVs. The potential recovery rate of the adjacent communities should be considered when designing buffer widths if ameliorating microclimate effects to the stream is a concern.

Soils and Mass Movement

A positive trend continues in minimizing and controlling mass movement. Monitoring found no change from the results reported in FY – 03. Of the 17 sites monitored in 2003 and 2004, only 7 were moving, the others were stable. Of those moving, only "Boundary" on road 1133 at milepost 14 was not attaining success towards desired conditions.

Current management practices using the Standards and Guidelines for Water Quality have been as follows:
Current practices for road location, design and construction are effective. Temporary Road locations are placed to avoid or minimize potential erosion / mass movement sites and are obliterated and/or hydrologically stabilized upon completion of activities. When possible, roads use non-geometric horizontal and vertical alignments that result in smaller cuts and fills.

Current practices for road reconstruction are effective in eliminating, reducing or mitigating existing mass movements. Simple improvements to the road drainage system such as ditch and culvert inlet cleaning, addition of cross drains and replacement of deficient culverts have been effective in reducing sedimentation.

Current practices for site-specific slope stabilization and post-stabilization mitigation have been effective. Three out of the 4 sites monitored are stabilized and the other is within the TOV. Many other sites that were monitored this year, but not listed specifically, are stabilized. So the success rate is very high.

Maintenance practices have been effective where applied. However, there is still a concern over the lack of funding to perform this work to the extent needed. Several backhoe / dump truck contracts using PAYCO funds were performed on the Middle Fork R.D. and elsewhere. These were very beneficial to the landscape by broadening the treated area.

Decommissioning projects have been effective. Frequent dispersal of water from the roadway through a variety of techniques has reduced or eliminated gullying and erosion. In removal of stream crossing structures, it was apparent that removal of fill material to bankfull width or beyond was effective in reducing first-year sediment input to the stream.

The large earthflows that were monitored in 2003 continued to move, but at a decreased level compared to the previous year. No management activities have occurred on these landforms for a number of years.

Fish

Forest fish monitoring has focused on the Oregon chub (an endangered species) and bull trout (a sensitive species_ habitat and populations. The Forest is also concerned about the proportion of winter steelhead and Chinook smolt numbers as a result of land management activities. The Fisheries Monitoring Report contains a lot of facts, survey results, and discussion. Too much too summarize in this monitoring report. The detail report is available at request.

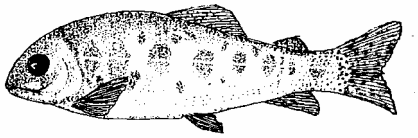
Winter Steelhead and Chinook

We monitored salmon smolts in the *Middle Fork Willamette* above Hills Creek Reservoir from 1999 to 2001. In 2000 we captured 800 salmon smolts and in 2001 we caught over 1,000 salmon and a 300 mm bull trout. In 1999 and 2000 we also completed a study of salmon passage through Hills Creek Dam. No additional sampling of this magnitude has been conducted in 2003 or 2004. Sampling in 2003 and 2004 consisted only of intermittent snorkel surveys that were usually focused on bull trout numbers.

Salmon in the *North Fork of the Willamette* were radio tagged and released by the U.S. Corps of Engineers 2004. The results of that study were strictly similar to an identical study completed by the Forest Service in 2001. Both studies showed that many adult salmon in the North Fork of the Willamette die before they spawn. The mortality rate is similar in all the larger river systems on the Middle Fork District. ODFW, U.S. Army Corps of Engineers and the Forest Service are currently working on methods of holding and transportation that will increase the survival rate of adult salmon in the future.

There may be an upcoming opportunity to conduct juvenile monitoring of Chinook in the *South Fork McKenzie River* after completion of the water temperature control tower associated with Cougar Dam. .

Controlled flows downstream of Cougar Dam would seldom subject monitoring effort, such as rotary traps, to extreme flows. With a known number of adult salmon using the South Fork McKenzie River as spawning habit (due to adult transport around the dam), monitoring downstream migrant smolts could provide a sub-basin production index, but it would be difficult to link production to the influence of land management activity.



There has been no monitoring taking place in the *Little North Santiam River*, the *South Santiam River* or the *Calapooia River* that would indicate whether smolt numbers are increasing, decreasing or are stable. There may be an indication that winter steelhead smolt numbers in the South Santiam River may be increasing based on the increasing numbers of adults returning to the South Santiam River the last three years. The problem with this assumption is that the increase may be only due to higher survival rates of smolts not increases in smolt production

Chub habitat and population

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. Detail chub populations are available on the 6 ponds where they are monitoried. Planning to improve habitat at the Oakridge Slough site is currently underway and is expected to be complete in 2005.

Bull trout habitat and population

Bull trout habitat on the *Middle Fork Willamette River* is improving each year with numerous habitat enhancement projects. In 2004 we monitored these many projects and have determined that bull trout are present in all release areas and all age classes are present in the Middle Fork Willamette River and Hills Creek Reservoir. 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. The Forest Service works in conjunction with ODFW on nearly all bull trout and salmon related research projects.

Declines in *McKenzie River* population bull trout are not attributable to modification or degradation of habitat critical to bull trout. Frequent spawning surveys, temperature monitoring and snorkel surveys provide continuous examination of habitat quality to surveyors, and changes in habitat quality have been in the direction of improved conditions. A more detailed discussion of this is available on the Forest. In the continuation of improving habitat,

McKenzie River Ranger District is planning to implement a bull trout habitat improvement project in the mainstem McKenzie River upstream of Trail Bridge Reservoir during summer 2005. The project proposes to add large wood to the river channel to create log complexes in an area that was salvaged after the 1964 flood.

Potential Bull Trout habitat in the *North Santiam* and South Santiam River Systems are being maintained.

In the course of monitoring existing populations of existing bull trout, standard pool counts by snorkeling were again completed in 2004 on the *Middle Fork Willamette River* from the confluence of Hills Creek Reservoir to Chuckle Springs. Juvenile bull trout were observed in all 17 locations with the exception of Bear Creek in 2004.

Calendar year 2004 was the 8th year bull trout fry were trapped in *Anderson Creek* (McKenzie River tributary) and transplanted in the Middle Fork Willamette system. A total of 617 bull trout fry were released into 5 sites on the Middle Fork Willamette. . The success of the program thus far has exceeded expectations in that bull trout appear to be rearing successfully in all release sites and dispersing naturally into the Middle Fork Willamette River and Hills Creek Reservoir.

On the McKenzie River since a peak count during Fall 2000, the total McKenzie River population redd count has declined an average of about 9% per year or 32.6% between 2000 and 2004.

The *South Fork McKenzie River* population of bull trout appears stable or slightly improved. The upper *McKenzie River* population appears stable.

Based on redd survey results, the Trail bridge population appears to be increasing. However, a greater level of redd survey effort is likely reflected in apparent increasing numbers of redds. Beginning in 2004, Stillwater Sciences began an intensive surveys consisting of examining upper McKenzie River spawning habitat every other day (alternating banks each day). While the population does not appear to be decreasing, the Trail Bridge population remains as described by Buchanan in the 1997 ODFW bull trout status report, as at high risk of extinction, due to small population size, isolation above the dam, hybridization with brook trout, angler harvest, and habitat quality.

The South Fork McKenzie River population of bull trout has been monitored through successive years of intensive effort by the ODFW Cougar Research Group. The majority of the South Fork McKenzie River adult population is believed PIT tagged. While the South Fork population appears to be stable or increasing, they remain as described by Buchanan in the 1997 ODFW bull trout status report, as at high risk of extinction.

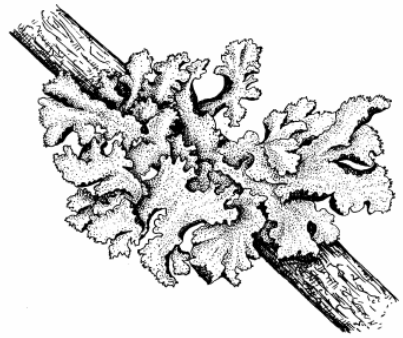
Recommendations

Willamette National Forest effort directed at angler education, particularly in areas of anadromous angling effort below Leaburg Dam, should focus on species identification, support of creel census in anadromous angling reaches and enforcement presence. Where conservation funding sources are available, the Willamette National Forest should combine with partners in pursuit of funding for the purposes described above. Should conservation effort fail to stem decline of the McKenzie River bull trout population, the Willamette National Forest should advocate more restrictive angling regulations designed to conserve bull trout as Oregon Department of Fish and Wildlife regulations are reviewed.

Biological Diversity

Monitoring biological diversity in our monitoring report entails monitoring our old growth habitat and the seral stage distributions across the forest.

Old growth stands are now protected under the Final Supplemental Environmental Impact Statement on the Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl. Data is being collected on the first



ten years 1994-2003 status and trends of late-successional and old-growth forests. Though final analysis is not available yet initial results show the initial amount, distribution, and arrangement of older forests on federally managed lands appears to have met or

exceeded Northwest Forest Plan expectations.

Seral stage distributions by plant associations are being monitored and mapped as a part of the Fire Regime Condition Class effort. The fire regime condition class (FRCC) is a classification of the amount of departure from the natural fire regime. A departure from the natural fire regime results from changes to one or more of the following ecological components: vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated disturbances (e.g. insect and diseased mortality, grazing, and drought) stratified by potential natural vegetation series. A deviation exceeding the threshold of variability will most likely also produce a flag showing a departure from the natural fire regime.

Wildlife

The Forest provides diverse habitat supporting over 260 wildlife species. A select number of species, requiring a diverse degree of habitat needs, were chosen to be managed for their required habitat which in turn assured other species' needs are met. These selected species were termed Management Indicator Species (MIS).

Two of these species are the Bald Eagle and Peregrine falcon. There are a total of 18 Bald Eagle nest sites on the forest. All are protected in accordance to the Forest Plan requirements. There are 8 of 9 sites on the south end of the forest that have not been incorporated into Management Area 8. Five nests were active this year with 8 young successfully fledged this year.

Peregrine falcons are monitored each year. Twenty-three of 27 sites were occupied this year. With 20 showing verified nesting. Habitat conditions are reported as adequate. All known sites are monitored which meets and exceeds the national delisting requirements.

With respect to survey and managed species 418 acres were surveyed for red tree voles, 110 acres for mollusks, and 1,126 acres for great gray owls.

Pileated Woodpecker,
Dryocopus pileatus

Primary cavity excavators (PCEs), which rely on dead and decaying trees and other MIS species, have been the subject of a long-term study to understand if the snags that are provided persist on the landscape as planned, are used and contribute towards maintaining a viable population of PCEs. Habitat for PCEs appears to be adequate to meet forest level objectives. However, recent regional modeling efforts indicate historic snag and down wood levels are much higher than forest level objectives for most time periods. A multi-year project for monitoring created snags found the following:

- Of the 1200
- snags, 82% were used by woodpeckers for foraging;
- woodpeckers preferred dead created snags over living created snags for foraging;
- woodpeckers preferred dead created snags equal to natural snags for nesting; and
- mortality rate for created snags was lower than predicted.

Though 2004 is not a reporting year for snag monitoring, the McKenzie Ranger District reported monitoring 272 snags with 11 showing PCE activity.

With respect to deer and elk populations, we are likely below management emphasis level goals in all high and moderate areas due to high road densities and decreased forage opportunities. We may be meeting goals in some low emphasislevel areas, however, the data is inconclusive at this point. Based on hunter statistics and annual census counts by ODFW, population trends of both deer and elk are down forest-wide, especially deer. Elk populations may be holding steady in some basins. Causes for the decline in big game populations are likely due to a combination of factors. Some of those factors are lack of adequate forage and adequate security cover (open road densities are still too high) is a concern on the forest. In addition, at the lower elevations, deer hair loss disease has caused a decline in local populations.

Plants

A primary purpose for monitoring in the botany program is the maintenance of viable levels of threatened, endangered, and sensitive plants. District Botanists prioritize sensitive plant monitoring for the year, based on requirements in Conservation Strategies, concern for viability of populations and length of time since relocation.

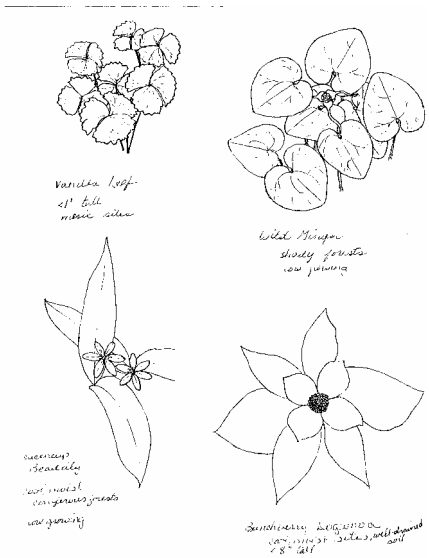
A total of nineteen days were spent monitoring species forestwide. Botanists are finalizing a Conservation Strategy for *Calamagrostis breweri*, so almost a third of the days were spent working through a viable monitoring protocol for this species located in Mt. Jefferson Wilderness on Detroit District.

Members of the *Ophioglossaceae (Ophioglossum* and *Botrychiums*) account for another third of the monitoring effort as their populations can be quite variable from year to year.

The forest Monitoring Watch List of rare, unusual, or of special concern doubled in size this year to 72 with a decision signed in March, 2004.

The weed program has become a big part of the botany program. Most of the weed work completed on the Forest is manual control (306 ac), although some mechanical mowing (42 ac) and chemical control (23 ac) contribute to the program. We were able to competitively plant 12 acres after treatment. Botanists are using alternative methods such as the Waipuna (1 ac) and solarization with black plastic (1 ac) where other methods are inappropriate.

The forest also monitors the reseeding of native species following soil disturbing projects. Sweet Home District has fully integrated natives into their program of work; several hundred pounds of blue wildrye and California brome were used to seed skid roads,



landings and roadsides. A salvage operation is occurring on Detroit where campground construction is damaging understory vegetation including calypso orchids and trilliums. They are transplanting to disturbed campsites at Pamelia Lake. Small projects such as weed control road shoulders, recreational site restoration, decommissioned roads use native seed across the forest.

Resources and Services to People

Timber

The volume of timber products from the Forest is measured by including green timber sales, salvage sales, and miscellaneous convertible products such as firewood and Christmas trees. In addition, the Willamette is responsible for providing Alternative Volume in response to Public Law 104-19, Section 2001 (k)(3) commonly known as the Rescission Act. In Fiscal Year 2004 the Forest offered 47.5 MMBF in green, and salvage products. The Forest also offered 5.9 MMBF in Alternative Volume sales. The low accomplishment, relative to the Forest Plan's Probable Sale Quantity, was due to offering less volume in green and salvage sales based on the allocated budget. Also in lieu of another timber sale, the Forest assisted the Siuslaw Forest in the preparation of a timber sale.

Silvicultural Practices

Growth responses from timber stand improvements (TSI) 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.

Acres of final regeneration harvest were queried from STD database (archived). Acres certified as reforested in 2004 or earlier were also queried from same data source. A follow up check was done with district reforestation specialists and silviculture data base coordinators on stands not reported as certified to verify whether stands were actually not reforested and certified (and if so, why) or if there was just a lag time reporting the certification.

Results are reported in the table below.

District	Acres of final regeneration harvest in 1999	Stands harvest in 1999 and certified as reforested in 2004 or earlier
Detroit	86	51
McKenzie River [1]	92	0
Sweet Home	0	0
Middle Fork	240	240
TOTAL	418	291

[1] In 1999 there were also 405 acres of partial harvest or shelterwood harvests on the McKenzie River RD as part of a landscape study timber sale. Most of these stands included underplanting as part of the prescription and 249 acres have been successfully underplanted. Replanting is continuing on the remaining acres. These stands have not been reported as part of the five year regeneration report because, 1. The treatment prescription for these stands retained 40-60% of the existing mature trees and crown cover and would still be considered forested with the retained trees, and 2. While no further timber entries are scheduled at this time for those stands, the harvest would not be considered a final regeneration harvest in stand silviculture systems.

Reasons for not meeting the five year reforestation requirement:

The 35 acres on the Detroit RD were replanted following the initial planting effort and the final stocking survey is scheduled for 2006 to determine if an adequate number of seedlings are surviving and well-established.

The 92 acres on the McKenzie River RD are the result of a wildfire in 2003 that burned over the timber sale units that had been planted following harvest. These acres are scheduled to be replanted next spring, 2006.

TSI accomplishments of thinning, release, and fertilization totaled 7,174 acres. Accomplishments are well below predicted plan. A significant backlog of plantations in need of thinning is building on the Forest.

Insect & Disease: Monitoring of insect and disease activity on the Forest is completed each year. An increase in Douglas fir beetle was noted on private lands in the Willamette reporting area, With respect to true firs affected by cytospora canker, dwarf mistletoe, sawfly (unknown species), and fir engraver beetle complex, increased to almost 3,000 acres. Bear damage reported for 2003 at 15,607 has decreased this year.

Cultural Resources

The Forest cultural resource inventory reflects a resource base of over 2,250 recorded historic properties.

Beginning in 2004, the Forest trained as site stewards a group of various interested members of the public. The Willamette's Historic Site Stewardship program enlisted 21 volunteers who helped monitor a total of 13 historic sites. All tolled they contributed 280 hours and conducted 35 site.

During FY2004, the Heritage staff reported monitoring visits to 115 sites with several sites receiving multiple visits do to their vulnerability. We attempt to differentiate between "new significant condition change" and "cumulative effects" of on-going conditions. *Cumulative effects* are often (but not always) more subtle, with damages occurring incrementally over time; for example, erosion in the drawdown zone of the reservoirs or along road cutbanks, heavy recreation use on a site, weathering and lack of maintenance on historic buildings (i.e., benign neglect). *Significant condition change* often results from a single action or activity, such as construction or maintenance of roads, trails, campgrounds, etc., arson, treefall, vandalism, and looting. Whenever possible, mitigation measures (i.e., corrective actions) are taken directly upon identifying the recent significant impacts. If a perpetrator can be identified, that party is responsible to pay for rehabilitation to the property. Often the specific source of damage is not easily identified.

In FY 2004, significant new impacts were noted at 3 (_2.5_%) of the sites monitored. The following damages were reported: ARPA violations (artifact looting) were discovered at three sites; recurring damage at two sites, and a new offense at a third site. Law Enforcement has taken action. Restoration efforts are underway at the sites.

Several sites illustrate *cumulative impacts of on-going adverse conditions.* These include, again recreation use, illegal artifact collection, ORV use on an historic wagon road, reservoir/inundation/water erosion. Lack of maintenance and weathering continue to present problems for many historic structures. Field archaeologists reported that mitigation prescriptions had been successful at several sites visited, while most sites had no prior mitigation requirements. Additional protection or some form of new mitigation, including more monitoring, was recommended for other sites.

Maintenance, stabilization and repairs of historic buildings are generally implemented in accordance with historic preservation standards. Through Passport in Time projects, PayCo grants, and other volunteer efforts, as well as occasional appropriated dollars, improvements were pursued as several historic structures in FY04. Some significant structures remain unutilized and suffer benign neglect. Several historic buildings were evaluated for significance to the National Register of Historic places last year, in preparation for their disposal. A group of 1940s residences, a set of 1950s residences, as well as a 1950s forest service compound were evaluated; only the 1940s residences were considered significant. The Forest is pursuing disposal of these buildings following any appropriate mitigation

Appropriate consultation is taking place with SHPO and documented in the cultural resources files.

Specially Designated Areas

"Specially designated areas" is a broad term that includes Wild&Scenic Rivers (W&SR), Research Natural Areas (RNAs), Old Growth Groves (OGGs), Special Interest Areas (SIAs), and Roadless Areas.

RNAs: One RNA (Torrey-Charton) was visited in 2004. Primary premise for the visit was a remeasure the snags and logs which were showing some significant changes following a stand replacing fire in 1996. Results from this visit will be forthcoming. No management related-disturbances were observed nor expected to be present in 2004 in this RNA or others.

Wild & Scenic Rivers: Wild & Scenic Rivers (WSR) are being protected in accordance with the Wild & Scenic River Act. Monitoring of the Upper McKenzie, a designated WSR, shows boat launches do not meet current demand and are in deteriorating conditions. Reconstruction of these boat launches is planned. Evidence of increased loss of vegetation and soil at high use locations along the river corridor are evident. Other qualities of this river including fish and wildlife habitat, dispersed recreation, trails, and mountain bike use are being protected.

The North Fork of the Middle Fork of the Willamette WSR has initiated or completed several projects along the river. The building of Opal

Campground was a result of the weekend occupancy levels, dispersed camping is compatible with other uses and ninety percent of the sites closed to vehicles is showing natural vegetation return. One and one half miles of trail of the North Fork Trail was reconstructed. Thinning to meet the desired future conditions of young stands is being planned but currently on hold. Other qualities such as scenic quality, water quality and fisheries are being monitored.

The Forest's newest W&SR, Elkhorn, does not yet have a management plan. No changes have occurred along the area and therefore it is presumed that the quality of the area has been maintained.

Roadless Areas: Both numbers and acres of unroaded areas and inventoried roadless areas are within the Forest Plan predictions.

Wilderness Areas: Review of Wilderness permits for Mount Washington, Mt. Jefferson, Diamond Peak, and parts of the Three Sisters Wilderness areas indicate a slight increase in overall use. Waldo Lake and the Three Sisters within the Middle Fork district show a 30% decrease. Based on field observation the smaller and less visited Wildernesses including Menagerie, Middle Santiam, and Opal Creek have stable use levels. Use numbers for the Obsidian Limited Entry Permit system in the Three Sisters remain stable with some seasonal fluctuations due to field conditions.

Detroit District continues to monitor use within the Pamelia Limited Use Area (Mt. Jefferson Wilderness) where there had been concerns about the use exceeding limits established for the assigned class setting. Resource conditions have improved markedly and numbers of encounters within the area are back within Forest Plan standards.

The Marion Lake area, the Jefferson Park area, and the Eight Lakes Basin/Duffy Lake area areas where the Forest continues to be concerned about levels of use and consistency with W&RS class settings. The District continues to monitor resource effects in these areas and continues public education and information efforts in preparation for the implementation of additional control measures proposed by the Jefferson Wilderness Focus Group several years ago. Among the additional control measures, during FY04, the Marion Lake campfire ban continued to produce noticeable positive effects on user behaviors and is beginning to show positive resource responses within the concentrated use areas adjacent to adjacent to Marion Lake and Lake Ann. Additional Limited Entry Areas (LEAs) may be necessary.

Effects on forest vegetation from the B&B Complex fires during the summer of 2003 on the Marion Lake and Eight Lakes Basin/Duffy Lake areas may concentrate future use in the remaining unburned areas. In FY04 Detroit personnel performed informal monitoring of changes in use patterns within the burned area following the fires. Preliminary survey estimates 10% of the visitors have been displaced from sites they would have preferred using prior to fires. More formal and comprehensive monitoring will be conducted during FY05.

Recreation

The Santiam Pass Dispersed Summer Recreation Planning Project has been started to evaluate alternatives for the protection of natural and cultural resources while providing an appropriate level of recreation opportunities and positive recreation experiences for visitors in an area where monitoring shows unmanaged dispersed day and overnight uses continuing to increase each summer season.

The Cougar Recreation Area continues to require a great deal of federal protection officers and law enforcement presence to monitor user behavior and site degradation during the summer months. In the winter, more vandalism and garbage occur due to the lack of Forest Service presence. A new recreation fee designed for Cougar will allow for increased presence.

The Elk Lake area occasionally exhibits use levels and party sizes or user activities that are inconsistent with the designated ROS setting. Since FY01, increased Forest Service presence has been used in the Elk Lake area to reduce or limit these inconsistencies. Use that is inconsistent with the ROS setting for Elk Lake still occurs occasionally despite the increased presence. Barrier posts have been installed to keep vehicles out of sensitive areas. Sanitation is a problem but plans to replace substandard toilets in FY05 should alleviate this issue at the more popular western end of the lake.

The decision for the Waldo Lake Basin was withdrawn in 2001. A decision regarding the use of motors on Waldo Lake is expected in 2005. Encroachments by snowmobiles in

the semi-primitive, non-motorized area off the Waldo road and illegal bike use in Wilderness areas is noticeably reduced from recent years observations.

Fall Creek Corridor Special Interest Area has been a popular place for hiking and camping (both developed and dispersed) for a number of years. Use of this area has been increasing for some time. Recent observations and consideration of the experiences we are providing have resulted in the realization that the use of this area is not entirely consistent with the Forest Plan standards which are to provide a physical setting that meets or exceeds the Roaded Natural ROS class in Special Use areas. During high use periods, generally summer weekends, visitors to the Fall Creek area experience numbers of social encounters inconsistent with an ROS of Roaded Natural.

Other Unique Areas

The forest monitors for adverse affects from human use or management activities to any special area on the Forest. In FY04 forest personnel visited 10 special areas and OCRA with the intent of monitoring conditions. Some observations include:

Fall Creek Special Interest Area- Continue to find less trash, fewer homeless camps and improved vegetation regeneration. A considerable number of potentially hazardous trees exist in portions of this area as the result of the 2003 Clark fire. A decision on how to respond to the effects of this fire is scheduled to be made in May 2005.
Hardesty Mtn-.Trails in the area received more use during wet weather, widening them around wet areas. Mountain bike use on wet soils created troughs on switchbacks and along the fall line.
OCRA- No new effects noted in 2004. A few complaints were received regarding ATV use. This use remains restricted to the trail system, but other users are not accepting of this legal use.
Constitution Grove - The site was monitored. Because of easy access from Forest Road 19, litter is generally found at the site. The overstory mortality that has been ongoing for several years appears to have abated.
Rigdon Ranch Special Interest Area - Heritage sites were monitored and found no change in status.
Deadhorse Rock Shelter Special Interest Area - Heritage sites were monitored and found no change in status.
Eagle Creek Special Interest Area general condition was monitored; this area receives virtually no use, likely due to lack of access.
Horsepasture Cave Heritage sites were monitored and no changes were found.
Gold Lake Old-Growth Grove Site was monitored and no change in status was noted.
Johnny Creek Old-Growth Grove This area burned by the Clark Fire and no longer qualifies as old-growth. The associated nature trail and parking area, which is wheelchair accessible, remain relatively unaffected but all signing was destroyed and several bridges slightly damaged.
Monument Peak – This area is a botanical special interest area. ATV use continues to be an issue in this area including the open road system which is in poor condition. This site is remote and receives limited law enforcement or administrative visits. A private horse capground will be constructed near this area in FY05 and could potentially have impacts to this SIA that should be monitored.

Trails

A range of trail opportunities is offered from hiker only nature trails, to motorized only, to multiple users sharing trails. User conflict is an issue on popular multiple use trails, such as Waldo Lake. Some hikers at Waldo Lake complain about motors on the lake. Others complain about mountain bikes on the Waldo Lake trail. Some mountain bikers use infrequently traveled trails in the Waldo area as single track race course training, which is not consistent with other user expectations or with current ROS settings.

Funding for reconstruction has been very limited and almost nonexistent for new construction. Fee Demo and Payco funds have allowed Districts to leverage limited appropriated funds and complete a few minor backlog maintenance projects but do not completely fill the gap.

A decision was signed to relocate two sections of trail within the Waldo Wilderness area and two on the Waldo Lake trail to avoid sections where resource damage is occurring. Implementation of these relocations will occur when funding is secured.

The Hunts Cove Trail reconstruction and the Crag-South Breitenbush tie-through Trail construction were completed in 2004.

Developed Recreation

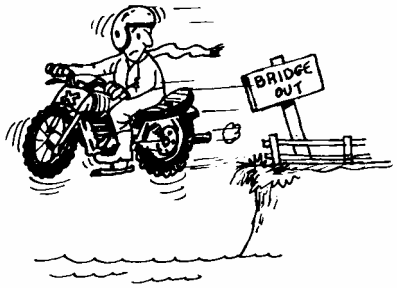
Concessionaire-operated and Forest Service managed facilities meet or

exceed standards and guides for cleanliness and health and safety. However, with the reduction in workforce due to budget, standard may fall below expectations of the public.

Bedrock campground and nearby trails along Fall Creek were closed and seriously damaged during the 2003 Clark Fire. This campground will be open for the 2005 camping season but water will not be available.

Vandalism is a growing problem in developed sites causing the Forest to divert limited maintenance dollars to repair or replace facilities. Vandalism increases during the off-season when there is limited personnel and law enforcement presence. Numerous recreation signs were stolen or damaged at various recreation sites. There was an abundance of vandalism at the Salt Creek Observation Site during the fall and winter. Toilets at Three Pools were burned down by vandals in the spring when there was limited presence in the Little North Fork. Winter storms that downed trees resulted in damage of numerous campground facilities.

There is a growing conflict at Detroit Lake over boat ramps and limited parking. Campsites were being used beyond their original design resulting in resource damage and are now limited to eight people per single site and twelve per multiple site.



Recreation monitoring also determines if sites provided and distributed meet changing trends. Monitoring reveals this is being fulfilled but work is still needed. Demand for a formal and safe snow-play area continues to be unfilled. Plans are underway for additional areas, but funding is an issue. On the Middle Fork District, a decision was made to construct a safe and adequately sized developed snow-play area. PAYCO funding was secured for FY 05 to accomplish the site clearing and vault toilet installation, but funding for road and parking lot paving has yet to be obtained.

Once popular dispersed sites are now receiving improvements that with continued improvement will move them to developed recreation areas.

There is also a growing need for multiple mini-group sites within campgrounds or large group sites across the Forest (e.g. Detroit Lake, Hill Creek Reservoir, Middle Fork River, etc).

Off Road Vehicle Use*:* In general, ORV use is occurring in areas designated for such use. In 1999, the Oregon Revised Statues was amended so as to allow non-street-legal OHVs to operate on most forest roads, unless the Forest Supervisor specifically prohibits them. The forest responded to this by developing a strategy to coincide with the new ORS. In July 2004, the Forest Service published a proposed regulation on travel management. Some of the highlights of the proposed rule: requires each Forest to designate those roads, trail and areas open to motor vehicles, and prohibitions will be based on regulation and will not require special orders, and relies on use of maps rather than signing. The Final Rule is scheduled for Spring of 2005 with designations completed within 4 years.

Use of ORVs on trails closed to such use is occurring infrequently. The Pacific Crest Trail in the Big Lake Burn area is the area receiving the most inappropriate use due to numerous road crossings.

Motorized intrusions into the Three Sisters Wilderness and Mount Washington Wilderness by snowmobiles continue to be of concern. Monitoring during the winter has shown an average of 30 intrusions per day, some only a few hundred feet over the marked boundary but many tracks have been observed several miles into the Wilderness.

Recreation Use

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. Twenty-five percent of National Forests will

participate each year for the first four years. Once the cycle is completed the Forests will be resurveyed every five years. The Willamette National Forest participated in this project in FY 2002. Until the resurvey is done, a large-scale trend cannot be quantitatively determined for this type of use, though anecdotal evidence strongly suggests that use is increasing, particularly in dispersed areas. Recreation visits are projected to increase in all use categories with growing housing densities along the I-5 corridor and Central Oregon.

Recreation use on the forest for fiscal year 2002 at the 80 percent confidence level was 1.5 million national forest visits +/- 12.9 percent. There were 2.1 million site visits, an average of 1.3 site visits per national forest visit. Included in the site visit estimate are 45,256 Wilderness visits.

Until the resurvey is done, a large-scale trend cannot be quantitatively determined.

Scenic Resources

The effects of individual landscape alterations are within the scenic quality standards for each management area. Thinning comprised the bulk of timber harvest activities on the Forest. Some thinning projects within the North Santiam Viewshed on the Detroit District were created to promote stand diversity including vegetation for spring and fall colors, and opening scenic vistas along Stahlman Trail and Blowout Road for views of the lake.

It has been noted during the recent analysis of the proposal to remove hazardous trees created by the Clark Fire mortality that scenic standards and guidelines do not adequately address how widespread fire mortality affects scenic resources.

Transportation

Policy changes in the last several years have had a profound effect on how roads will be managed in the future. In the past the primary purpose for road construction on the Willamette was to enable timber harvest. Most of these roads exist in areas where timber harvest is no longer an objective. The lack of accomplishment is a benefit from an environmental stand point because negative environmental impacts typically associated with roads. On the other hand, the loss of potential access may be seen as a negative impact from a Forest administration and management view point.

STATUS OF THE FOREST'S TRANSPORTATION SYSTEM

Road Construction and Reconstruction

Miles of road constructed	0
Miles of road reconstructed	143

Miles of road removed

Miles of road decommissioned	0.0
Miles of temporary road closed	No longer reported

Road Suitability

Roads Suitable for Passenger Cars	1,568
Roads Suitable for High Clearance Vehicles	4,222
Closed Roads	772
Total Miles	6,562

Traffic volumes

Traffic volumes are not being reported this year. Due to very old software and the newer Microsoft operatating system, the old traffic counting software is not compatable and not functioning. This problem should be corrected and reporting will commence again in FY2005

The values of many of the Forest's outputs are determined by trends in public preferences, changes in timber availability, and understanding the community the Forest influences. By monitoring these parameters we can begin to answer the larger question "How are social and economic conditions changing over time and what are the consequences of that change? How are these changes distributed?".

Social

Oregon's employment trend saw positive growth through all four quarters of 2004, for the first year since 2000. On an annual average basis, 2004 ended with gains of 2.0 percent, after three consecutive years of job losses.

Job gains were highest in the business support services (up 14.8%; 1900 jobs), largely due to an increase in call centers locating in-state. (Source: Oregon Blue Book 2004)

Even with job recovery, Oregon's unemployment rate is likely to remain above the national average for at least another year. The 2004 unemployment rate dropped from a seasonally adjusted value of 7.6% in December of 2003 to a seasonally adjusted value of 7.4% for December 2004. This was 1.9% higher than the national average for that same period. The Eugene/Springfield (analogous to Lane County) and Salem (analogous to Marion County) Metropolitan Statistical Areas were equal to the state average. Linn County unemployment was at 9.4% for 2004. (Source: Oregon Employment Department, 2005)

Despite the high unemployment rate in Oregon in 2002-2003, there was still positive in-migration, generally outdoor minded young adults, retirees and immigrants, whose motivations were not as economically driven as is normally the case. It is important to note that net migration (people moving into the state minus people leaving the state) accounts for only 56% of total population growth. The remaining 44% was due to natural fluctuation (births minus deaths). During the period 1990 to 2000, migration accounted for 73% of total growth.

County	Population 16 yrs and over	% in Labor Force	Females 16 yrs and over	% in Labor Force
Lane	258,327	64.3	132,623	58.3
Linn	79,582	63.0	40,723	54.8
Marion	215,834	63.7	108,049	57.6

Table 41.1 Employment Status in 2000 (source: USBC, 2000)

Based on 2004 population estimates for incorporated cities in Oregon, upland community populations are holding steady for the first time in several years, while urban and lowland rural communities near the I-5 corridor continue to gain population. Population increase, since 2003, in urban and lowland rural communities in Lane, Linn and Marion Counties was 1.2%, 1.4% and 1.0% respectively. The State population has grown by 1.1% in that same timeframe.

The proportion of population now living in Oregon's incorporated cities and towns has increased from 66.6% in Census 2000, to 68% on July 1, 2003. (Source: *Population Growth in Oregon: 2000 to 2003,* Population Research Center, Portland State University*)*

The following items represent the most significant changes in direction and policy for 2004:.

- **The Record of Decision (ROD) to Remove Survey and Manage (S&M) Mitigation Measure Standards and Guidelines** was signed on March 22, 2004. This decision was effective on April 21, 2004. The decision called for the transition of former S&M Species to the Special Status/Sensitive Species (SSS) Lists.
- **The National Forest Management Act** was revised by the 2004 Forest Service Planning Rule. The Planning Rule establishes a new approach to forest-level Plan amendments and revisions.

The degree of intensity of the issues associated with these changes has been high.

Budget

Fiscal Year 2004 final expenditures displays:

Funds appropriated by Congress for the management of National Forest lands, and Permanent and Trust Fund monies.

Funds appropriated by Congress are for specified purposes such as wildlife management, timber, or general administration. The Forest does not have the authority to spend money appropriated for one type of activity on some different activity. As a result, even if there is a surplus in one type of fund, that surplus cannot be used to make up a shortfall in another type of fund.

Permanent and trust funds are fees collected for specified forest projects such as timber sales, salvage sales, and road use. The funds are used for activities associated with these projects such as slash disposal, preparation and administration of salvage sales, reforestation, and road maintenance.

The expenditures presented include $2,079,914 of non-reoccurring expenditures for wildfire suppression.

FISCAL YEAR 2004 FINAL EXPENDITURES

Description	FY04[1]
Facilities Capital Improvs & Mtce	4,425,957
Forest Products	4,820,699
Grazing Management	1,150
Inventory and Monitoring Activities	400,886
Knutson/Vandenburg Funds[1]	2,835,787
Land Management Planning Activities	16,808
Land Ownership Management	431,414
Law Enforcement	0
Minerals and Geology Mgt	167,703
Payment to Counties	2,579,329
Recreation/Heritage/Wilderness Activities	1,469,994
Roads Capital Improvs & Mtce Activities	1,140,852
Senior Program	99,058
State and Private Forestry	167,178
Trails Capital Improvs & Mtce	722,760
Vegetation and Watershed Mgt	910,821
Wildland Fire Management / Fuels Treatment	6,152,655
Wildlife and Fisheries Habitat Mgt	1,165,029
Working Capital Fund	1,575,762
TOTAL	29,083,841

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

Forest Receipts

Fiscal Year 2004Receipts….$15,603,117

Forest Plan estimated receipts are no longer calculated. It is quite clear the Forest's receipts are only a fraction of the Forest Plan estimate.

Payments to States

Fiscal Year 2004 $39,243,506[1]

[1]Based on Title I, Title II, Title III

Forest Plan Est. Payments $42,632,374

County Breakdown

Clackamas	$11,674
Douglas	$1,216,833
Jefferson	$3,125
Lane	$24,238,549
Linn	$11,026,477
Marion	$2,746,848

Implementation Monitoring

The Forest completes Implementation Monitoring at two scales. Each asks the same basic question. "Is the Forest implementing the Forest's standards and guidelines (S&Gs) as stated in the Forest Plan and in the Northwest Forest Plan?" Forest Plan implementation monitoring is conducted by the Forest Supervisor whereas the Regional Ecosystem Office (REO) conducts the Northwest Forest Plan monitoring trips. Each trip consists of a review the environmental documents and then a review of the project on-the-ground.

Forest Plan Implementation Monitoring

In the course of conducting Forest Plan monitoring the forest reviewed four projects,

- *Blue River Face Timber Sale* at Mckenzie River RD
- *French Creek Thin* at Detroit RD,
- *White Moose Timber Sale* at Sweet Home RD, and finally
- *Swift Creek Culvert* at the Middle Fork RD.

Blue River Face Timber Sale This project was directly related to implementing the Blue River Landscape Plan. This is a plan to test concepts and methods for using historical fire regimes as a basis for landscape planning while integrating methods to meet aquatic conservation objectives established in the Northwest Forest Plan (1994).

The project entailed road obliteration, logging, regeneration, stream treatments of class III and IV streams. Also a big part of this project was on-site protesters during logging operations.

Use and obliteration of the road was consistent with project requirements and Forest Plan standards and guidelines. Planting was consistent with project plans and within 5 years following harvest. The project prescription for the Class IV riparian area was to maintain 30% crown closure across the stream. Based on previous canopy monitoring results that the district has done on the unit as whole and the monitoring team's visual estimate, the consensus was that canopy across the Class IV stream met or exceeded 30%. The Decision Notice prescribed 75' no harvest buffer or to the edge of topographic break above the Class III stream channel in Unit 7c. Paced measure of the no cut buffer showed that it met the 75' or was at the topographic break. Feathering of the next 100' with a canopy of 50% was also met based on the visual estimate of the monitoring team. Appears that all project requirements were met and project is consistent with the EA.

White Moose Timber Sale was a difficult sale to implement because of changes in delays. The fisheries consultation was quite complicated and many of the original stand prescriptions were modified from regeneration prescriptions (with 15% or 30% canopy retention) to thinning prescriptions with canopy retention levels of 40-60% canopy retention. Many of the study objectives outlined for the Adaptive Management Area were dropped in the FEIS and ROD for several reasons including the change in prescriptions and having to dropy several key units that are in the inventoried roadless area. Of the units monitored both met the modified prescription.

The general vicinity of several units that were prescribed to provide habitat conditions for tall bugbane was viewed by the monitoring team.

Swift Creek Culvert The decision included the repair of three culverts of which one was not replaced due to a lack of funding. Swift Creek and Echo Creek had culverts replaced. The decision to replace the culverts was based on an inventory two years ago of culverts that had a significant impact on TES species, bull trout and spring Chinook. Mitigation measures for erosion control were very effective at Echo Creek but at Swift Creek seeding was not effective leaving little vegetation on bare cut and fill slopes. Also at Echo Creek the de-watering system on the site failed over a weekend resulting in a higher level of sedimentation moving downstream. Immediate steps were taken to mitigate the sedimentation. As a result of this incident all new contracts for culvert replacement require the de-watering systems to be in-place, inspected, and approved by the FS prior to proceeding with construction.

Overall all the projects looked good, accomplished the objective of providing fish and aquatics connectivity on streams important to T&E listed species.

French Creek Thin Documentation is not available from this trip. Participates on this trip recall no major problems with the project.

NWFP Monitoring

No new roads were built and no roads were decommissioned in key watersheds in 2004.

In Fiscal year 2004 West Middle Prairie on Chucksney Mountain was monitored to determine if it met the NWFP objectives. West Middle Prairie is an 80 acre unit. Forty acres were burned and 40 acres were left as a control. The purpose of the project was to determine if conifer establishment can be retarded and to evaluate the role of fire, as a process, plays in maintaining plant community composition.

The large conifers were killed by burning. The burning also stimulated lodgepole pine seedlings to grow. The project met all requirements.

ROAD SYSTEM CHANGES WITHIN KEY WATERSHEDS SINCE 1995

Key Watershed	Miles of road built	Miles of road decommissioned	Current net change
Little North Santiam	0.00	0.30	-0.30
Upper North Santiam	0.41	4.80	-4.39
Upper McKenzie	1.12	11.21	-10.09
South Fork McKenzie	0.00	20.22	-20.22
NF MF Willamette	1.70	12.00	-10.30
Horse Creek	0.00	0.00	0.00
"Chub" Watersheds	0.00	0.00	0.00

10 Year Report for the Northwest Forest Plan

The Regional Interagency Executive Committee[1] directs the implementation and management of the Northwest Forest Plan and has authorized a regional interagency monitoring team to evaluate the success of the Plan over the last 10 years. A collection of draft reports are available at www.reo.gov.

This collection of reports on the 10-year anniversary of the Northwest Forest Plan is the first comprehensive analysis and interpretation of monitoring data since the 1994 Record of Decision. These reports attempt to answer questions about the effectiveness of the Plan from new monitoring and research results. The set includes a series of status and trends reports, a synthesis of all regional monitoring and research results, a report on interagency information management and a summary.

The status and trends and synthesis reports will be published in the Fall of 2005 as a series of reports called general technical reports (GTR's) by the Pacific Northwest Research Station. To date, these draft reports have received extensive technical reviews and external blind peer review.

These draft reports are being made available prior to publication in order to make these results available. Please note that the content of these reports may change slightly as a result of the editing and publication process.

[1] The Regional Interagency Executive Committee (RIEC) serves as the senior regional entity to assure the prompt, coordinated, and successful implementation of the Northwest Forest Plan (NWFP) at the regional level. The RIEC serves as the principle conduit for communications between the region and the national entities.

Accomplishments

The following table compares the actual accomplishment of selected Forest Plan objectives during the fiscal year 2003 (FY03), October 2000 through September 2003) 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.

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 2004 Accomplishment		Cumulative Avg. Accomplishment	
		Units	Units	%	Units	%
RECREATION AND WILDERNESS				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 2002. Next reporting year 2006.		
National Forest Visits	Visits	--	1,494,834.0			
Site Visits	Visits	--	2,142,159.0			
Wilderness Recreation Use	Visits	--	45,256.0			
Trail Construction/Reconstruction	Miles	78.0	1.8	2%	9.0	12%
Developed Recreation Construction	PAOT	327.0	28.0	9%	51.8	16%
Developed Recreation Reconstruction	PAOT	844.0	0.0	0%	237.6	28%
TIMBER MANAGEMENT						
Timber Sale Program	MMBF	136.0	53.4	39%	69.3	51%
Timber Harvest Treatments						
Regeneration Harvest	Acres	3,144.0	119.0	4%	791.2	25%
Commercial Thins	Acres	2,808.0	1,683.0	60%	1,496.8	53%
Other	Acres	---	687.0			
Timber Stand Improvement	Acres	18,100.0	7,174.0	40%	10,926.6	60%
Reforestation	Acres	3,144.0	713.0	23%	2,717.3	86%
Fuel (Slash) Treatment	Acres	3,144.0	985.0	31%	1,746.7	56%
ROAD MANAGEMENT						
Road Construction	Miles	40.0	.0	0%	2.9	7%
Road Reconstruction	Miles	174.0	143.0	82%	91.3	52%
Roads Closed	Miles	890.0	772.0	87%	697.5	78%
Roads Suitable for Passenger Car	Miles	1,580.0	1,568.0	99%	1,472.4	93%
Roads Suitable for High Clearance Vehicles	Miles	4,530.0	4,222.0	93%	3,807.9	84%
FISH / WATER / WILDLIFE / LIVESTOCK						
Watershed Improvement	Acres	533.0	0.0	0%	428.5	80%
Anadromous/Inland Fish Habitat Improvements	Miles	12.0	29.0	0%	6.5	--
Wildlife Habitat Improvements	Structures	451.0	438.0	97%	462.3	103%
Livestock Grazing (AUMs)	AUMs	200.0	0	0%	75	38%

Evaluation and Recommended Actions

This section of the monitoring report was traditionally reserved for Recommended Action items. 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 such as amendments to the Forest Plan.

The Forest has been implementing the Forest Plan since 1990. The Forest personnel routinely follow 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 FY2009. Items that will be our focus will include:

- Develop a scientifically credible process to determine a Natural Range of Variation by plant association.
- Review all resource databases developed for flora, fauna, terrestrial ecosystems, vegetation, field sampled plots, forest infrastructure, and recreation information.
- 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 look for areas that can be improved without the need for a Plan revision.

Follow up on Recommended Actions

In the previous year Monitoring and Evaluation Report, the following actions were recommended to progress to a Forest Plan Revision. Below is a status report on these recommended actions

Databases

Review all resource databases developed for flora, fauna, terrestrial ecosystems, vegetation, field sampled plots, forest infrastructure, and recreation information.

This work is schedule to begin in 2005. All databases will be reviewed in light of the data needed to support Forest Plan revision analysis. Initial recommendation will result.

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. Past reports will also highlight issues best addressed with a holistic view of long-range forestwide plan.

The work on studying past Forest level monitoring reports have not yet been completed. This work will be best completed approximately one year before Forest Planning begins.

A study of the success of implementing 10 years of the NWFP has been completed and can be seen on page 20.

Natural Range of Variation

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

The 2004 Planning Rule will require a rigorous analysis of ecological conditions in relation to the range of natural variability. In a response to this need a workshop on Range of Natural Variability was held in January 2005. The conference featured speakers on a wide range of topics including national fire management policy, regional fire ecology, meadow restoration, landscape and project level planning, implementation issues and solutions.

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:

Amendment	Implementation Date	Type of Change
1	10/30/1990	Vacates Regional Guide for spotted owls.
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;
8	03/22/1992	Establishes Management Plan for the North Fork of the Middle Fork of the Willamette River Wild and Scenic River.
9	02/20/1992	Changes official Forest Plan Map from manually drafted management areas 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.
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).

Forest Plan amendments

Amendment	Implementation Date	Type of Change
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 and moves a pileated woodpecker site within the area. Also, re-labels 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.
18	02/17/1993	Clarifies direction in Forest-wide standard and guideline FW-018 to provide more site-specific and objectives.
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 for the most effective control methods, based on site-specific conditions.
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.

Forest Plan amendments

Amendment	Implementation Date	Type of Change
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.
33	01/16/97	Allocates 13.4 acres to MA-6d, Upper McKenzie Wild and Scenic River; 0.25 acre to MA5a, Special Interest Area; and about 11 acres to MA-11C, Scenic Partial Retention Middleground.
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.

Forest Plan amendments

Amendment	Implementation Date	Type of Change
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, in Christy Basin, 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 Waldo Lake Management Plan which addressed management issues in and around the lake. ***This decision has since been rescinded.***
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 updates

Forest Plan Amendments (discussed above) change decisions made by the Forest Plan, consequently, they also require environmental analysis under the National Environmental Policy Act (NEPA). From time to time other changes to the Forest Plan are needed which are not intended to affect earlier decisions or Plan objectives. Examples of such 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 ten updates to the Forest Plan:

Update	Implementation Date	Type of Change
1	07/06/1993	Makes two minor management area boundary adjustments on the Oakridge Ranger District (RD).
2	10/18/1993	Clarifies the Forest-wide S&Gs for prescribed fire in nonwilderness.
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 a management area. To clarify that the exclusion of commercial SFP collection applies only to the large, mapped Late-Successional Reserves (LSR) and not to all of the owl activity centers that are now 100-acres LSRs.
5	12/15/1995	Clarifies 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 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.

Forest Plan updates

Update	Implementation Date	Type of Change
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.

R6–WILL–009-05