

**Klamath National Forest
Fiscal Year 2005
Monitoring and Evaluation Report**

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Introduction

The Fiscal Year 2005 Monitoring and Evaluation Report documents the evaluation of monitoring information related to the Klamath National Forest Land and Resource Management Plan (Forest Plan) from October 1, 2004 through September 20, 2005. The overall objective of monitoring and evaluating forest plans is to determine whether programs and projects are meeting forest plan direction. Monitoring is the collection of information, on a sample basis, from sources identified in the plan. Evaluation of monitoring results is used to determine the effectiveness of the Forest Plan and the need to either change the plan through amendment or revision or to continue with the plan. Data are compared to data from past years, when appropriate. Monitoring results are emphasized rather than monitoring data. Evaluations were based on professional judgment when monitoring data were incomplete or lacking.

Monitoring Activities and Evaluation

Even though the emphasis of the Klamath National Forest is on integrated resource management, the following section is organized by program areas as in the Forest Plan. Each section identifies program goals, summarizes the monitoring actions related to this program area, and evaluates how well program goals are being met and how closely management standards and guidelines are followed. Program Emphasis goals can be found on pages 4-5 through 4-9 of the Forest Plan. Forestwide goals can be found on pages 4-4 through 4-5 of the Forest Plan. Monitoring elements from the Forest Plan Monitoring Plan can be found in Table 5-1 of the Forest Plan on pages 5-11 through 5-14. All Forest Plan pages references relate to the version on the Forest web site, which includes all amendments and errata as of November 21, 2001.

Physical Environment

Goals: The goals are to achieve water quality objectives through the use of best management practices, mitigate erosional effects, and treat toxic substance hazards.

Monitoring: Best management practices monitoring follows Regional evaluation guidelines and procedures. Monitoring of hazardous materials (naturally occurring asbestos, radon, abandoned mines and landfills, etc.) is done by maintaining an inventory of known and new sites and investigating and cleaning up hazardous wastes/substances present. Hazardous abandoned mine sites are signed. Safety problems and other reclamation problems are prioritized and projects initiated and completed as funding allows. Monitoring of timber sale activities, prescribed fire, tractor piling and mastication of brush for erosion and water quality objectives was done.

Results: Fiscal year 2005 represents the fourteenth year of best management practices monitoring on the Forest. A total of 46 sites in 20 categories that include timber, roads,

recreation, fuel reduction, and vegetation manipulation activities were monitored. Ninety-three percent of the best management practices sites met the criteria for implementation and ninety-eight percent met the evaluation criteria for effectiveness. This represents a slight decrease in both implementation and effectiveness compared to fiscal year 2004 results.

Geology

Goals: Goals for the geology program are outlined in Klamath National Forest Sufficiency Standards of January 31m 2003. These are: *(1) Life and Property-* Protect human life and property from geologic hazards (landslides, seismic and volcanic events, asbestos dust, radon gas). *(2) Aquatic Conservation Strategy Objectives-* “Maintain and restore the sediment regime with which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate and character of sediment input, storage, and transport”. Emphasis is placed on minimizing management-related landslides and maintaining natural slope stability. *(3) Unique Geologic Areas-* Protect and maintain unique geologic resources (Special Interest Areas, Research Natural Areas, caves). *(4) Restoration-* Restore areas damaged by previous human activity (such as abandoned mines, or sediment-producing roads). *(5) Geologic Resources-* Ensure that geologic resources (rock aggregate and earth materials, locatable minerals, groundwater) are developed in a cost-efficient and environmentally sound manner.

Monitoring: *(1)* Systematic monitoring of landslides through field visits and air photo inventories is conducted only after landslide episodes (primarily after precipitation events). Similarly, the effects of seismic/volcanic activity are monitored only after such events occur. In the absence of such events, monitoring is limited to field personnel collecting information. Asbestos is monitored by sampling proposed aggregate or riprap sources for asbestos content, and sampling air in the vicinity of earth-disturbing activities in asbestos-bearing earth materials. *(2)* Aquatic conservation strategy objectives related to sediment and geologic standards and guidelines associated with landslide mitigation are reviewed on individual projects; the sample information can be used to make determinations at the 5th field watershed scale. *(3)* The condition of cave resources over the past 5 years has been monitored primarily by the Klamath Mountains Conservation Task Force and the Shasta Area Grotto; the Forest Service routinely monitors a few caves each year. Cave features and formations are visually monitored for damage, and bat usage is monitored in selected caves. As opportunities arise, Forest personnel monitor unique geologic areas such as Special Interest Areas on site. *(4)* Restoration monitoring includes determining the amount (miles or number of sites) and effectiveness of road decommissioning/restoration work including landslide stabilization and reclamation of abandoned mines. *(5)* In 2005, one earth materials development was monitored (Dry Lake).

Results: *(1)* There were no large landslide-producing storms, seismic episodes, or volcanic episodes in 2005. An inventory of asbestos-bearing rock sources was initiated in 2001 and work on the inventory, including lab testing for asbestos, continued in 2005.

(2) No significant management-related landslides were reported by District or Supervisor's Office personnel in 2005. As a result, Aquatic Conservation Strategy sediment regime objectives were attained over the long term at the 5th field watershed scale. Geologists routinely work on projects with the potential for disturbance, delineating unstable lands in the field.

(3) Cave use has increased over the past several years. The gate at Barnum Cave was damaged by vandals in 2005, and new graffiti damage was reported at this cave by the Shasta Area Grotto in summer 2005. Similar graffiti damage from 2002 has not yet been repaired. Shasta Area Grotto continued its annual trash cleanup at Pluto's Cave. The vehicle count at the parking area for Pluto Cave has been discontinued. Scorpion, Skunk Hollow, and Jake Bell 1 & 2 caves were monitored, and found to be in good condition

(4) In fiscal year 2005, there was no new road decommissioning, since most of this work was accomplished in 2004, and the focus in 2005 was on stormproofing. **Implementation** success (outsloping, obliterating takeoffs, etc.) was good for roads decommissioned in 2004, and monitored in 2005. Monitoring revealed a few instances where fills were not fully removed from stream crossings, and where waste was placed too close to a channel. These observations will be used to improve designs for decommissioning projects which are being planned and designed in 2006. **Effectiveness** was good in that no significant erosion or landslide problems were observed during 2005 monitoring. Without any intense storms in 2005, the **effectiveness** of road decommissioning and restoration work relative to landsliding was not thoroughly tested. Most design elements such as proper outsloping, installing dips, and full removal of fills at crossings were effective at minimizing erosion. Refer to the Forest Best Management Practices report for 2005 for additional information on monitoring of road decommissioning reported by other earth scientists on the Forest.

(5) Implementation and effectiveness criteria were met on the earth materials developments at Dry Lake rock pit. No water quality impacts or sedimentation occurred during rock use at this site. Refer to the **Air Quality** Section for monitoring and further details on regulatory compliance related to asbestos in rock sources.

Specially Designated Area Management

Goals: The goals are to recognize special areas and values, provide information about these areas, develop partnerships for research within Research Natural Areas, and promote interpretive opportunities within Special Interest Areas.

Monitoring: Special Interest Areas are monitored through field visits as opportunities arise. The Geologic Research Natural Areas that are cave-related are monitored as described above in the **Geology** section. The Fourmile Hill Tree Mold and Condrey Mt. Blueschist Geologic Special Interest Areas were monitored in 2005 and found to be in good condition.

Results: The Forest coordinated with Pacific Southwest Research station to complete the Establishment Records for Sugar Creek Research Natural Area (RNA). Geologic Special

Interest Areas and Research Natural Areas have received limited emphasis on the Forest. Preliminary interpretive materials have been developed for the Crater Glass Flow, Deer Creek Landslide, and Coffee Creek Stream Capture SIA's.

Soils

Goals: The goals are to maintain soil productivity and reduce management-related soil erosion.

Monitoring: The attributes monitored are soil cover for erosion protection, fine organic matter for nutrient cycling, coarse woody debris for biological activity, and soil disturbance for root growth. Standardized sampling methodologies developed on the Forest or Region were used to collect the data.

Results: Monitoring of prescribed fire, machine mastication, tractor piling, and revegetation of decommissioned roads was conducted. Soil cover levels in managed stands ranged from 68 to 96%, averaging 83% for total cover. Forest Plan soil cover guidelines were fully met in the monitored treated areas. Monitoring results show that the requirement for fine organic matter continues to be met in treated areas. Monitoring of some underburns showed that 13 to 65% of the areas did not burn. Sampling the mastication of brush-dominated plantations found total soil cover to range from 79 to 87%. Compaction and disturbance monitoring of sandy loam volcanic soils on the Goosenest Ranger District and gravelly loam soils on the Happy Camp Ranger District showed that some of the main skid trails had greater than 10% reduction in soil porosity (10.1 to 21.96%) which exceeds the Regional 10% threshold. Disturbance data showed that 9.2 to 18.9% of the sampled areas were in main skid trails. The area with detrimental conditions ranged from 3 to 7.6% for the 4 Goosenest Ranger District units and 11.5% for the one Happy Camp Ranger District unit. The monitoring showed that none of the sampled units exceeded the 15% area threshold for detrimental disturbance. Overall, the monitored harvested area met all the Regional and LRMP Standards and Guidelines.

Water Quality and Quantity

Goals: The goals are to provide adequate instream flows, and to maintain water table levels in wet meadows.

Monitoring: The best management practices program and the aquatic conservation strategy are the primary mechanisms for ensuring the maintenance of water quality. Best management practices are monitored as described under **Physical Environment**. Aquatic conservation strategy monitoring is described in the **Geology** and **Aquatic Conservation Strategy** sections. The water quality-monitoring element is tied to the **Physical Environment** goal of achieving water quality objectives.

There are no monitoring elements in the Forest Plan Monitoring Plan for providing adequate instream flows and maintaining water table levels in wet meadows. The Forest

manages flows for domestic use, but does not control flows on rivers controlled by dams such as the Klamath River or flows on the Scott River within Scott Valley. Stream flows on the Klamath and Scott Rivers are monitored by other agencies.

Results: Refer to the **Physical Environment** and **Aquatic Conservation Strategy** sections for discussions of water quality results.

Air Quality

Goals: The goals are to comply with legal requirements, and to manage prescribed fire to avoid prolonged air quality impacts to local communities. Legal requirements include the Federal Clean Air Act and the State Air Quality and Smoke Management Standards and Regulations.

Monitoring: Smoke plumes are monitored during prescribed burning projects and complaints about smoke intrusions recorded. Monitoring compliance with the Asbestos Toxic Control Measures (Title 17, Section 93105 and 93106) consists of evaluating quarry sites in ultramafic rocks; testing for asbestos; discontinuing use of any aggregate with detectable asbestos content; and incorporating dust abatement measures during road construction, maintenance, and quarry operations in ultramafic rocks. Several road decommissioning, road maintenance, borrow source development, and stormproofing projects received permits or waivers in relation to these regulations.

Results: No complaints were received during prescribed burning in 2005. Fuels were treated with prescribed fire on about 5,540 acres and on average 500 to 1,000 acres which includes mastication, thinning and hand piling.

Consistent with the 2000 Smoke Management Regulations in California, Smoke Management Plans for Forest projects are submitted to the Siskiyou County Air Pollution Control District to obtain permits for burning. This process was first used in the fall of 2000 and post-burn evaluations found few smoke impacts on sensitive areas.

The California and National Environmental Protections Agency air quality databases indicate that overall air quality measured by PM₁₀ has been good from 1999 through 2004. Forest management activities, such as prescribed burns, have not exceeded state or federal air quality standards.

The on-going Forest rock resource inventory provides information on rock pits containing asbestos minerals. The Forest has developed a process to comply with the regulations and obtain permits from the Siskiyou County Air Pollution District for road construction, maintenance, and quarry projects in ultramafic rocks used at the Siskon Mine Rehabilitation Project.

Biological Environment

Goals: The goals are to manage for healthy ecosystems, provide goods and services in an

environmentally sound fashion, use new knowledge, develop an integrated inventory, cooperate with other agencies, and promote awareness and appreciation of species.

Monitoring: The Northwest Forest Plan (NWFP) and Forest Plan initiated a management scheme which, applied over time, should result in healthy ecosystems. Monitoring of management actions is completed annually as part of the Forest Plan Implementation monitoring program conducted in a consistent manner throughout the range of the Northwest Forest Plan. Project-specific monitoring also occurs on the Forest. Except for activities that involve multiple biological resource programs, monitoring activities and results at the Regional and Forest levels are described for specific program areas within the Biological Environment.

Results: Since the implementation of the Northwest Forest Plan, scientific understanding has increased. Results of the Forest's involvement in Northwest Forest Plan monitoring are contained in annual Northwest Forest Plan reports, which can be found on the web:

<http://www.reo.gov/monitoring/reports.htm>

Public awareness is an important part of ecosystem management. Forest personnel are involved in a variety of environmental education projects throughout the county to promote public awareness of species and their habitat. Our 2005 programs and projects included the 12th Annual Wildflower Show, International Migratory Bird Day events, Kangaroo Lake Special Interest Area Interpretive Trail development, and a booth at the Siskiyou Golden Fair featuring the Forest's elk herds. The Siskiyou County Weed Management Area Group, of which the Klamath is a prominent partner, sponsored a weed education booth at the Siskiyou Golden Fair and a Weed Tour centered on Scott Valley in 2005. About 350 people enjoyed the fish derbies at Juanita Lake and Kelly Lake that were sponsored by the Forest with contributions from Don's Sporting Goods, Yreka Tackle Shop, and the local Walmart store. Partners from the Americorps program working at Scott River Ranger District, taught watershed and anadromous fish education to local schools to more than 300 students and 30 adults. Eight Siskiyou County schools participated with the Forest, California Conservation Corp, and California Department of Fish and Game to develop on-site outdoor garden classrooms.

Biological Diversity

Goals: The goals are to manage for healthy diverse ecosystems, species habitat, and desired populations.

Monitoring: Monitoring focuses on species listed under the Endangered Species Act as threatened or endangered, designated by the Regional Forester as sensitive, and identified in the Forest Plan as management indicator species.

Biological Assessments are prepared with each proposed project to analyze the effects to threatened and endangered species and their habitats. Biological Evaluations address project effects on sensitive species and their habitats. Management indicator species are evaluated through a review of effects of project level activities on habitat conditions.

The Forest relies on monitoring efforts conducted by the state, research groups (private

and federal), universities, and landbird monitoring conducted through partnerships with qualified groups to determine current habitat conditions and species presence.

Many species require monitoring over areas larger than the Forest which is why Northwest Forest Plan Forests cooperate in monitoring species such as the Northern spotted owls and for aquatic conditions. Program monitoring for terrestrial, botanical, and aquatic species and their associated ecosystems included a review of annual program of work documents, project proposals and associated funding levels, discussions with biologists and botanists on the Forest, field survey results, and technical reports completed through Forest staff efforts.

Results: Forest Plan standards and guidelines are designed to promote recovery of threatened and endangered species and provide protection to sensitive species by protecting and improving habitat at the Forest and project scales. Planning efforts continued in 2005 for the Goosenest and Mount Ashland Late-Successional Reserves with the objectives of restoring late-successional habitat and reducing fuels. Interdisciplinary teams responsible for leading these projects included biologists, fuels specialists, and silviculturists.

Efforts such as Late-Successional Reserve northern spotted owl surveys, field verification of the Forest-wide Late-Successional Reserve Assessment, and landbird monitoring serve as the best assessments of the status of late-successional habitat conditions and species associated with those habitats. Surveys for bald eagles, peregrine falcons, Swainson's hawks, burrowing owls, goshawks, and Siskiyou Mountains salamander surveys were also completed.

Northern spotted owl population monitoring results and the multi-agency analysis is available in "Status and Trends in Demography of Northern Spotted Owls" on the web:

<http://www.reo.gov/monitoring/trends/index.htm>

In 2005, the Klamath National Forest, U.S. Fish and Wildlife Service and California Academy of Sciences partnered to evaluate the effectiveness of barred owl removal as a tool for **northern spotted owl** conservation. Barred owls have recently colonized portions of the Goosenet Late Successional Reserve (LSR) and have displaced northern spotted owls. During this 2-year study (2005 and 2006), the 23,000-acre LSR will be inventoried for northern spotted owls and barred owls. Surveyors will document occupancy, pair status, and reproductive success of both species of owls. Personnel from California Academy of Sciences will remove barred owls from sites within the LSR and follow-up monitoring will document the response by northern spotted owls.

The amount of incidental take incurred versus the amount allowed through Endangered Species Consultation with the U.S. Fish and Wildlife Service is also monitored and reported annually. Implementation and effectiveness of protective measures designed by the Interagency Level 1 team and incorporated into forest management activities were monitored in 2005. This included monitoring 7,500 acres of habitat in project areas to determine **northern spotted owl** status.

In 2005, staff from the Klamath National Forest, Shasta-Trinity National Forest, U.S. Fish and Wildlife Service, and the USDA Forest Service Pacific Southwest Research Station in Arcata, California began a cooperative study of **Pacific fishers**. The purpose

of the study is to document distribution and habitat suitability of fisher in the Eastern Klamath and Southern Cascades Bioregions in Northern California. Currently, Fishers are being surveyed for at an estimated 240 sites on National Forest System Lands and adjacent private timber lands. Presence-absence data gathered from the surveys will be analyzed in conjunction with GIS data to develop the habitat model. The model will be expressed in the form of a map that will specify the likelihood of fisher presence for any given site in the study area. This model will further assist federal and non-federal biologists to analyze potential effects of land management activities on fisher habitat. It will be a key component in developing and implementing state-wide conservation strategies on federal and non-federal land. Estimated completion date of the habitat model is October 2007.

Monitoring of **bald eagles** indicate that the 1990 Resource Planning Act goal for this species is being met. In 2005, 13 bald eagle nests were documented and monitored; the Resource Planning Act goal is 5 nests. Initiated by the National Wildlife Federation, the midwinter bald eagle counts have been taking place since 1977. The 2005 midwinter bald eagle count area included the upper Klamath River, Scott River, Salmon River, Scott Valley, and Butte Valley. Results of nest monitoring are given to California Department of Fish and Game. Mid-winter bald eagle survey results are reported to the Santa Cruz Predatory Bird Research Group for incorporation into their state-wide summary:

<http://www2.ucsc.edu/scpbrg/research.htm>

In 2005, the Klamath National Forest entered into agreement with Argonne National Laboratory to prepare a Conservation Assessment for the **Siskiyou Mountains salamander** (*Plethodon stormi*). The salamander was added to the sensitive species list in 2004. The Conservation Assessment will summarize existing knowledge of the biology and ecology of the species. It will be completed in May 2006.

The Klamath National Forest partnered with the U.S. Fish and Wildlife Service to further investigate the range of Siskiyou Mountains salamander, Del Norte salamander (*P. elongatus*), and a newly described salamander, Scott Bar salamander, or *P. asupak*. Approximately 100 locations were searched and 76 salamanders were detected. Tail clips were collected and submitted for genetic analysis. The results from this study will be incorporated into the Conservation Assessment for the Siskiyou Mountains salamander.

The Goosenest Ranger District continued long-term monitoring of **northern goshawks**. Monitoring results were used to design habitat improvement projects and to determine if seasonal restrictions should be applied to forest management project activities. Thirty-two goshawk territories were monitored and six project areas were surveyed to protocol.

Swainson's hawks were monitored in the Butte Valley on the Goosenest Ranger District to determine survival, reproduction and recruitment in the local population. Habitat variables were measured in an attempt to understand the relationship between habitat and reproductive success. This work is being conducted by a graduate student who will analyze data in 2006. In total, 101 territories were identified in the 93-square mile Butte Valley study area.

Botanical Resources: Forestwide Standards and Guidelines direct sensitive plant species management to ensure maintenance of reproducing, self-sustaining populations, and to prevent the need for the species to become listed under the Endangered Species Act. Last year, the Forest and United States Fish and Wildlife Service completed a habitat restoration project to conserve populations of *Calochortus persistens* on Gunsight Ridge. This project, identified in the draft conservation agreement for the species, consisted of hand treating the noxious weed, Dyer's woad, on 22 acres along the road within and adjacent to *Calochortus persistens* populations. The project continued in 2005, with removal of Dyer's woad by hand on 19 acres. Monitoring of treatments from last year indicate that hand-cutting of Dyer's woad along roads is effective at reducing but not eliminating the number of weeds.

The Klamath National Forest noxious weed program has been very successful in developing partnerships throughout Siskiyou County for the program elements of education/awareness, inventory, control and treatment of noxious weeds. In 2005 our partnership projects included the following: Siskiyou County Weed Management Area group, Siskiyou Golden Fair Weed Education Booth, Happy Camp Ranger District Weed Control, Scott River Ranger District Weed Control, Salmon River District Spotted Knapweed Eradication and Goosenest Ranger District Weed Control.

Inventory and monitoring of potential and known sites of *Phacelia cookei* was conducted in order to determine current status. Twenty-acres were inventoried and results showed that populations had declined due to lack of disturbance. In 2006, the Klamath and Shasta-Trinity National Forests will cooperate to restore habitat for this species.

Inventory on 6 acres in Shovel Creek Meadows in 2005 documented presence of three sensitive bryophyte species.

Anadromous Fish: In Fiscal Year 2005, the Forest coordinated with multiple agencies to monitor at-risk anadromous fish stocks: **coho salmon, Chinook salmon, and steelhead trout**. Chinook spawning was monitored on 132 stream miles on rivers within the Klamath National Forest in the fall of 2004. Approximately 626 fish returned to the Salmon River (including the river section on the Ukonom Ranger District, managed by the Six Rivers NF), 467 fish returned to the Scott River, 4750 fish returned to the Shasta River basin and Bogus Creek, and 557 fish returned to miscellaneous mid-Klamath River tributaries in 2004. The spawning in the Salmon River was concentrated in those reaches that have historically had heavy spawning: the lower 6 miles of the North Fork and South Fork and in the mainstem of the Salmon River. The Scott River spawning distribution is flow dependent with the valley having the highest concentration of spawning in years of high flows, and the canyon having the highest concentration of spawning during years of low flow. The 2004 surveys found that spawning in the Scott River was concentrated in the canyon probably due to low flows (20- 120 cfs) throughout the survey period. In the 26 years (1978-2004) that CDFG has reported these numbers, approximately ten years (1979, 1980, 1983, 1984, 1990, 1991, 1992, 1993, 1994, and 1999) had lower Chinook run-size estimates than those calculated for 2004. Since 1978, Klamath River run-size has been estimated as high as 245,542 (1995) and as low as 11,273 (1992). The total run-size for natural spawning fish in 2004 was estimated to be 88,777.

The annual dive on the Salmon River was conducted in July 2005 to count the number of spring-run Chinook salmon and Summer-run steelhead trout. About 77 miles in the Salmon River watershed were surveyed with 90 Chinook and 222 steelhead counted by a multi-stakeholder effort.

The Forest assisted the Siskiyou Resource Conservation District (RCD) with an adult coho salmon survey in the Scott subbasin during the November 2004 through January 2005 period. The KNF also assisted the Salmon River Restoration Council (SRRC) with an adult coho salmon survey in the Salmon subbasin during the November 2004 through December 2005 period. Most survey results for USFS streams in the Scott and Salmon subbasins are reported by the RCD and the SRRC, respectively. The Forest observed coho during the Fall Chinook Spawning Surveys (October through November 2004) in the Scott/Salmon subbasins, and also in mid-Klamath tributaries, such as Beaver, Horse, Elk, Indian, Clear, and Dillon Creeks. Limited surveys for coho salmon were conducted in these tributaries into January 2005.

Fish were counted and water temperature was monitored to assess the effectiveness of the Kelsey Creek spawning channel on the Scott River Ranger District. Anadromous fish were counted within cool-water sections of the Scott River to assess the importance of thermal refugia. The Forest reviewed the effects of suction dredging operations on the Forest and requested that CDFG consider a reduction in the timing and/or location of suction dredging to better protect anadromous fish and their habitat on the Forest. Thirty sites on streams on the Happy Camp Ranger District were monitored to determine water quality and streamflow over time. In February 2005, Klamath River Basin stakeholders, including representatives from state and federal agencies, tribes, resource conservation districts, local watershed councils, and businesses, met to **communicate, coordinate, and collaborate** planning and monitoring strategies to improve the water quality in the Klamath River basin. An action plan for water quality monitoring in the Klamath River Basin was drafted. Another meeting will be held in February 2006 to review the action plan and status of ongoing monitoring.

Aquatic Conservation Strategy

Goals: The goals are to maintain and restore all nine components of the aquatic ecosystem. The Aquatic Conservation Strategy includes four components: **1) Riparian Reserves, 2) Key Watersheds, 3) Watershed Analysis, and 4) Watershed Restoration.**

Monitoring: 1) Riparian Reserves and 2) Key Watersheds: At the regional scale, monitoring has occurred as part of Northwest Forest Plan implementation monitoring. At the Forest scale, implementation monitoring for Riparian Reserves and Key Watersheds consisted of a review of standards and guidelines, including site-specific Best Management Practices, related to the management and protection of Riparian Reserves and Key Watersheds during project planning. Fisheries staff from the National Marine Fisheries Service (NMFS) assists the Forest in reviewing and developing protection measures for Coho salmon and their critical habitat components during ESA consultation.

Also refer to the *Physical Environment* and *Geology* Sections.

3) Watershed Analysis: Watershed analysis has been completed for the majority of the Forest as reported in previous year's Monitoring and Evaluation Reports. As proposed projects are analyzed, the information updates the watershed analyses. Cumulative Watershed Effects modeling is the primary mechanism for updating watershed level information.

4) Watershed Restoration: Monitoring consisted of a review of planning documents at the watershed and project scales.

Results: 1) Riparian Reserves and 2) Key Watersheds: Consistent with the Northwest Forest Plan and Forest Plan, the Aquatic and Riparian Effectiveness Monitoring Plan is designed for the regional and species range scales. It is intended to characterize the ecological condition of watersheds and aquatic ecosystems, determine present watershed condition, track trends in watershed condition over time, and report on the Forest Plan's effectiveness across the region (Reeves and others 2004). A monitoring report called "Preliminary Assessment of the Condition of Watersheds" assessed the change in selected watersheds over the last 10 years of implementing the Northwest Forest Plan. The monitoring report states that 57% of the watersheds had higher condition scores, only 3% of the watersheds had lower condition scores, and the scores for the remaining watersheds did not change. The report also said that the growth rate of trees exceeded harvest rates, more roads were decommissioned than constructed, and the watersheds that had large increases in 'drivers' condition scores were all targets of road decommissioning. The watersheds that had lower condition scores were all exposed to wildfire (and not management activity). The full report can be found at:

<http://www.reo.gov/monitoring/10yr-report/watershed/final-report.html>

Working collaboratively with the University of California Berkeley, the Forest continued a four-year study to monitor best management practice effectiveness at in-channel construction sites in 2004 and 2005. Six sites on the westside of the Forest were evaluated for instream sediment characteristics and channel morphology. Located at Cecil Creek, Boulder Creek, Fox Creek, Bishop Creek, Upper Elk Creek, and Stanza Creek, the sites were reconstructed to allow for fish passage, resulting in culverts being replaced by bottomless arches. The goal of the study is to determine the amount of sediment, if any, delivered to streams during the construction phase as well as after one, two and three winters. The monitoring indicates the importance of best management practices and on-site monitoring during construction activities.

3) Watershed Analysis: Cumulative Watershed Effects modeling provides quantitative information on watershed conditions related to 7th and 5th field watershed scales and serves to update Ecosystem Analysis documents. Refer to *Physical Environment* section.

4) Watershed Restoration: Watershed restoration is integral in aiding recovery of fish habitat, riparian habitat, and water quality (Standard and Guideline 6-46). Roadwork is a cornerstone of a watershed restoration strategy because roads deliver 40% of sediment, but comprise only 2% of total area; roads are treatable; and roadwork can reduce future risk (Elder and de la Fuente 2003). The benefits of road decommissioning include

restoring hydrologic patterns, eliminating the potential for failure of high-risk fills, reducing the risk of cut bank failures, and reducing the risk of reactivation of existing landslides. The benefits of stormproofing include eliminating diversion potential, reducing the risk of failure of high-risk fills, and eliminating road ditch problems, thus decreasing landslide risk. The benefits of road maintenance include restoring surface drainage patterns, clearing pipes and ditches, and upgrading culverts to pass a 100-year flood. The Forest, with funding from CDFG and input from local stakeholders, made excellent progress in completing restoration projects related to roads that include decommissioning, stormproofing, and other maintenance. Implementation of the Yoakumville project, conducted under the “Gronchi” and “Hotelling” road improvement contracts occurred in 2005 and is expected to be completed in 2006.

Refer to *Physical Environment* Section for best management practices monitoring results at the Forest scale. Results are provided for all best management practices combined as well as for individual best management practices, program areas, and forests. The report also outlines recommended actions for the Regional Office and forests to execute over the next several years to maintain and improve our water quality management program.

It is available on the web: <http://fsweb.r5.fs.fed.us/unit/ec/water/bmp.html>

Wildlife

Goals: In addition to those stated in the *Biological Diversity* section, the goals are to coordinate habitat improvement with the California Department of Fish and Game and to maintain unique wildlife habitats.

Monitoring: Monitoring activities include those described in the *Biological Diversity* section, but are expanded to cover species not designated as threatened, endangered, sensitive or management indicator species, such as big game and migratory birds.

Results: Refer to *Biological Diversity* section for information on listed wildlife and management indicator species. **Landbird** monitoring continued at two Breeding Bird Survey routes located at Horse Creek and Medicine Mountain. Data collected in 2005 were added to existing data sets at Patuxent Wildlife Research Center in Maryland, where they are used to produce an index of relative abundance of each bird species detected. As the data are processed, they will be posted on the web:

<http://www.mbr-pwrc.usgs.gov/bbs>

The Seiad Valley constant effort bird mist-netting station was operated in 2005 for the 13th year. A similar station at Antelope Creek was operated for the 9th year. This monitoring provides information about adult population status, breeding status, productivity, annual adult survival, proportions of resident species, and recruitment into the adult population. The United States Geologic Service North American Bird Banding Laboratory, the Institute for Bird Populations’ Monitoring Avian Productivity and Survivorship program, the Klamath Demographic Monitoring Network, and the North American Migration Monitoring Network assess the data collected. The Institute for Bird

Populations, (a California nonprofit corporation, dedicated to fostering a global approach for research and dissemination of information on changes in the abundance, distribution, and ecology of bird populations), analyzes the constant effort mist netting data and makes it available at their website:

<http://www.birdpop.org/nbii/nbiihome.asp>

The Klamath National Forest and Klamath Bird Observatory investigated the effects of prescribed underburns on **landbird** abundance and diversity at sites over a 5-year period that ended in 2004. Preliminary analysis was completed in 2005. Results so far suggest that, as a whole, prescribed burning had relatively little effect on the overall bird community-spatial variation. Annual variation in abundance (associated with stochastic populations dynamics) appear to be more important than the change induced by prescribed burning. However, both Nashville warblers and Townsend's solitaires became less abundant as a greater proportion of the study area was treated with prescribed burning. More information is available at:

<http://www.klamathbird.org/Projects/knf.htm>

Bird monitoring in the Butte Valley National Grassland in 2005 added to the 20+ year data set of avian life in the area. Several raptor nesting territories were monitored including **burrowing owls** (management indicator species), a pair of **ferruginous hawks**, and **golden eagles**.

A graduate student working on the Gooseneck Ranger District Adaptive Management Area studied the response of **Cooper's hawks** in a Pacific Southwest Research Station study area. In the late 1990's, forested stands were treated with prescribed fire and various silvicultural prescriptions. In 2005, Cooper's hawks were captured, fitted with radio transmitters and their foraging habitat selection was monitored. Results of the analysis of foraging habitat selection are expected in 2006.

Habitat improvement for Forest Wildlife Emphasis species continued in 2005. In partnership with Rocky Mountain Elk Foundation, and the National Turkey Federation, 1,330 acres of wildlife forage habitat were improved. The Forest Emphasis species intended to benefit by these treatments were **deer, elk and turkey**. Water levels at Orr Lake were monitored and adjusted to maintain wetland habitat for **sandhill cranes**, waterfowl and other wetland species.

The Forest worked with California Department Fish and Game and Rocky Mountain Elk Foundation to develop a **Forest Elk Management Strategy**. Elk monitoring data, collected over the last 10-15 years were used to identify 10 elk herds associated with specific geographic areas. Current and potential habitat suitability were evaluated and specific areas where elk habitat can be improved were identified.

Fisheries

Goals: The majority of the Forest fisheries program focuses on management and protection of listed species, as described in the *Biological Diversity* section. Other goals are to coordinate management internally and externally, and to increase public awareness and appreciation of aquatic resources.

Monitoring: Monitoring consisted of a review of Forest Plan goals, standards and guidelines, best management practices, national program goals, action items established by the 1995 Recreational Fisheries Executive Order, restoration guidelines and procedures (Fish Passage restoration was a focus of 2005) and numbers/types of public awareness activities.

Results: The Forest participates in cooperative agreements or activities with a variety of agencies and groups, including the Karuk and Yurok Tribes, Klamath Basin Fisheries Task Force and Technical Work Group, Americorps, California Department of Fish and Game, the Scott River Coordinated Resource Management Partnership, the Salmon River Restoration Council, Humboldt State University, United States Fish and Wildlife Service, and NMFS. Public understanding of fisheries issues increased the last ten years. This is partially due to the national importance of Klamath River Basin water and fish issues. At the local level, the Forest participated in numerous activities designed to increase public awareness of fisheries values, including the Klamath Provincial Advisory Committee, the Salmon River and mid-Klamath River annual spring Chinook and summer steelhead trout counts, and fishing derbies at Juanita and Kelly Lakes. The Scott River fisheries staff worked with CDFG and NMFS to maintain the Kelsey spawning channel.

Scenery Management

Goals: Forest Plan goals are to conserve the native scenic character, meet Visual Quality Objectives, emphasize sensitive public views, conserve uniquely attractive landscapes, and rehabilitate areas below standards.

Monitoring: Assessment of goal achievement for the Scenery Conservation Program is based on professional judgment of the Forest's scenery specialists (landscape architects), public comments, and information from Forest, Regional and National scenery managers. Informal monitoring, and the Little Horse Peak Research Project's formal scenery monitoring report completed this year further supports this assessment.

Results: Scenic Character - Currently there is a widespread, substantial threat to the Forest's native scenic character that people value, primarily from wildfire-related scenery disturbances that would be in excess of the ecosystem's historic scale and intensity. This native scenic character has historically been enhanced and perpetuated through natural wildfires, and is now being partially accomplished through vegetative thinning and fuels reduction projects.

Scenic Integrity indicates the degree of natural appearance of the Forest, and the presence of scenery disturbance. In recent years scenic integrity has steadily improved, since human activities that historically create strong, visible disturbances have become less frequent (such as road construction, clearcuts and seed tree cuts). Some visual

disturbances still occurred in 2005, but their visual effects were typically limited to retain a largely natural appearance and achieve Forest Plan Visual Quality Objectives (minimum scenic integrity thresholds). Some existing scenery disturbances, due primarily to past practices or natural events will persist for many years or decades. Project monitoring indicates that KNF Scenery Analyses predict future scenic integrity with an accuracy of about 95%.

KNF Scenery Conservation Efforts in 2005: Results of scenery conservation input insured that the Forest's most sensitive projects with the greatest potential for affects upon Scenic Integrity and Scenic Character were mitigated.

Forest landscape architects applied scenery conservation input, to at least some degree, for the Klamath N F projects in 2005: Ashland LSR Project, Aspen Enhancement Project, Erickson Timber Sale monitoring, First Creek Project, Five Point Timber Sale scenery monitoring, Goosenest LSR Project, Happy Camp Fuels Reduction Project, Horse-Heli Project, Klamath River Hydropower Relicensing Project, Little Horse Peak Research Project scenery monitoring (formal report), Little Horse Salvage Project scenery monitoring, Meteor Project, Miller Salvage Project, Pinto Project, Red Rock Underburn Project, Salmon River District Plantation Project, Siskiyou Crest Fuels Project, Tennant WUI Project, and the Yreka Fuels Reduction Project.

Scenery Analysis guidelines were developed and used to identify the necessary analysis that adequately fulfills agency direction and responsibility.

Recreation Management

Goals: The goals are to support communities' diversification efforts, to offer a wide range of attractions, to design developed sites to support recreationists in off-site activities, to conserve the Forest's valued recreation settings, to provide barrier-free access, and to implement national and regional recreation strategies.

Monitoring: The assessment of goal achievement for the Recreation Program was based on the professional judgment of recreation specialists, public comments, and information from Regional, Forest, and District Recreation Managers.

Results: The Forest continues to make incremental recreational facility improvements that retain valued natural character, increase visitor satisfaction, and contribute to tourism and community diversification efforts. With very limited recreation budgets, the Forest invests money in high demand/high priority developed recreation sites, areas, rivers, and trails. These investments typically support off-site recreation activities at scenic byways, rivers, lakes, trails, and in wilderness and backcountry. The Forest continues to increase the availability of facilities suitable for children, the elderly, and people with mobility impairments through the projects listed above. Progress continues on implementation of the Forest Accessibility Action Plan of 2000, which defines and prioritizes accessibility barrier removal for its 190 recreation sites over 10 to 20 years. New facility improvements balance optimal access for people with disabilities and conservation of onsite natural setting characteristics. The Forest continues to strategically identify,

acquire funds, and plan recreation projects that remove barriers to people with mobility and other disabilities. Recreation operations and maintenance costs for key elements are regularly evaluated to improve the Forest program and provide high value services. Annual condition surveys on about 20% of recreation facilities identify budget needs to achieve standards. Developed recreation site fees collected under the national cost recovery program contribute significantly to providing onsite services and campground improvements. The achievement of Forest recreation goals is consistent with the National, Regional, and Forest Recreation Strategies.

Recreation use and demand continues to experience gradual, steady growth. Use is concentrated along scenic byways, rivers, lakes, backcountry roads, trails, and in wilderness and backcountry areas. Uncrowded and ecologically rich settings are the Forest's unique recreational assets and 'niche.'

The Forest continued to provide interpretive planning, coordination, and design services for the Shasta Volcanic National Forest Scenic Byway/All American Road, including work with agency partners and community stakeholders. Scenic Byway signing along the route was coordinated and a partnership with CalTrans to interpret vista point values was initiated.

In partnership with local off-highway vehicle club members, the Forest continued its second year of off-highway vehicle trail inventory work, to identifying current routes and off-highway vehicle use areas. The Forest's 250 miles of snowmobile trails, and its 2 associated snow parks received their seasonal grooming and management, as well as hundreds of miles of adjacent Forest snowmobile trails. A regional dogsled racing event was permitted and hosted, attended by 1000 people and 35 participants, this event generated funds for the American Red Cross. About 11 miles of backcountry trail were reconstructed to full standard on the westside of the Forest. Over 400 miles of primary trails, most within wilderness areas, were opened for passage through vegetative clearing. These actions will enhance the recreational experience, increase visitor satisfaction, and increase referrals to potential visitors.

As part of the complex evaluation of the proposed 50-year relicensing of PacifiCorp hydropower facilities on the Klamath River, the Forest continued coordination with the proponent and other agencies to conserve the river's important recreational fishing, whitewater rafting, water play, and sightseeing opportunities.

Wilderness Management

Goals: The Forest Wilderness goal is to maintain or enhance wilderness values.

Monitoring: The assessment is based on the professional judgment of wilderness specialists, public comments, and information from Regional, Forest, and District Recreation Managers.

Results: Onsite Wilderness use is primarily by recreationists and grazing permittees. Use levels are generally light compared to other wildernesses in the Region. Use continues to slightly increase. Resource effects within wilderness are primarily due to

recreational visitors, grazing use, historic fire suppression, and recent fire suppression activities. Few trailheads provide information about recreation opportunities and wilderness resource conservation measures. Management decisions regarding acceptable limits of key attributes and values, appropriate use zoning, and resource emphases are often made informally, frequently without support of coordinated plans or professionally established analysis methods.

In 2005 the Forest provided representation and leadership for the Pacific Southwest Region, as a member of the National USFS Wilderness Advisory Group.

A draft Wilderness Education Plan was developed to begin planning for educational activities that inform wilderness visitors and protect wilderness resources. Information data base (INFRA) entries were made as part of the annual update of the Forest's Wilderness inventory. Updated digital maps for the Marble Mountain and Russian Wilderness areas were distributed this year to all pertinent Wilderness information contact points.

Wilderness fire/fuel levels are increasingly high, partially due to historic fire suppression policies. The Forest's Wildland Fire Use Management Strategy provides criteria for determining when to allow wildland fire to burn to achieve resource goals in wilderness, rather than always suppressing it as in the past. The availability of this tool is expected to help reduce fuel build-ups created as a result of past fire suppression; refer to *Fire Management*. Wilderness rangers patrolled trailheads during hunting season to issue campfire permits, validate deer tags, and informing them about fire safety and wilderness resource protection.

Trail improvement work occurs each year, including surveys, maintenance, or light reconstruction on high priority trails such as the Pacific Crest National Scenic Trail, Hidden Lake Trail, Taylor Lake Trail, Kelsey National Historic Recreation Trail, Redrock Valley Trail, Wooley Creek Trail and Caribou Lake Trail. About 500 miles of trail were opened and cleared this year, and trail reconstruction or heavy maintenance was performed to standard on about 46 miles of trail. Much of this work was done through service contracts with the California Conservation Corps, Backcountry Horsemen, Student Conservation Association, Northwest Youth Corps with assistance from other local volunteer groups. Due to limited budgets, several other trails do not meet standards for clearing, tread maintenance, signing, and trail logs.

Limited campsite repair work occurred in high-use areas of the Marble Mountain Wilderness including Campbell Lake, Paynes Lake and the Sky High Basin. Wilderness use site cleanup, restoration, and trash removal from fragile areas was performed at high use locations. The extent of exposed mineral soil and loss of native vegetation at many campsites indicates that localized degradation is occurring. At key high use areas such as Campbell Lake, campsites were cleaned and significantly reduced in number from previous years. Some roads and other inconsistent features within wilderness provide opportunities for future rehabilitation. Trailhead bulletin boards have largely been refitted with durable "lexan" covers to protect visitor information.

Wild and Scenic River Management

Goals: The goal is to maintain and enhance the “outstandingly remarkable” values and free-flowing conditions of the Forest’s designated and recommended Wild and Scenic Rivers.

Monitoring: The assessment is based on professional judgment of Wild and Scenic River specialists, public comments, and information from Regional, Forest, and District Recreation Managers.

Results: Wild and Scenic River considerations are an increasingly prominent element of program planning and project implementation. Forest Wild and Scenic River assessment continued on the PacifiCorp hydropower Relicensing project on the Klamath River. This project has the potential to affect Klamath River fisheries, water quality, recreation, and scenery values. The PacifiCorp hydropower relicensing work continues to generate information on whitewater rafting, angling, and flow preferences that may be useful in maintaining and enhancing Wild and Scenic River values.

Several restorative tree planting, beach clearing, sanitation, noxious weed removal, river access enhancements and litter patrol projects were accomplished again this year by the Forest in coordination with river community members and the Student Conservation Assistant program. Interpretive signs were installed at the Sluice Box and Rocky Point river access sites. An interactive web page was established to provide WSR information on the Forest website. Dispersed recreation use was managed through river patrols and highway contacts along the Klamath and Salmon WSRs. Approximately 70 commercial whitewater and sport fishing recreation use permits were administered to manage public use in the WSRs. Local Native American Indian tribes were consulted to coordinate recreational river use with tribal ceremonies.

Lands Program Management

Goals: The goal from the Forest Plan is to achieve a land ownership pattern that improves management options, while reducing conflicts and administrative costs. A second program goal is to administer Land Use Authorizations to minimize unauthorized use and facilitate those needs of adjacent landowners that can only be accommodated through the legal use of National Forest System lands.

Monitoring: Program accomplishments were examined and compared to the goal.

Results: During 2005, the Forest acquired a 640 acre isolated parcel adjacent to the Marble Mountain Wilderness through the Transwood Tripartite exchange, and a 649 acre inholding in the Trinity-Alps Wilderness through the Middle Boulder Tripartite Exchange. The Forest has not been funded or staffed to accomplish land adjustments through exchange for several years, and most of this work is being done by the North Zone Land Adjustment Team. During the year no new exchanges were initiated with the North Zone team.

Land Use Authorizations are administered to Forest Service standards to ensure that the use of National Forest System lands are permitted and legal. The Forest has put a high priority on management of Land Use Authorizations. Focus of the program is the administration of existing permits to standard. The Forest met its goals for permit monitoring, Civil Rights Act Section VI compliance, and the number of permits managed to standard. Applications for new permits are processed quickly, and unauthorized uses are identified and brought under permit.

A high percentage of National Forest property boundaries, and an increasing percentage of wilderness boundaries, have been marked to standard. Management has focused on maintenance of boundaries, primarily adjacent to ongoing management activities and wilderness. The Forest maintained 43 miles of property boundary.

Minerals Management

Goals: The goal is to manage mineral exploration and development of surface resources to maintain environmental quality.

Monitoring: Minerals operations for locatable minerals are controlled by the surface use regulations. A mineral administrator periodically visits operations to ensure compliance with the approved plans of operations. Operations not in compliance with plans are cited. Leaseable minerals and minerals materials are regulated by permit and monitored for compliance with permit requirements.

Results: The Forest is complying with national direction to administer 100% of minerals operations to standard and will continue to do so. The Forest regulates a continuing program of small dredging and mining activities. Due to recent court decisions, the number of mining-related occupancies is increasing. These occupancies are monitored and, where occupancy exceeds 14 days, self-contained sanitary systems are required. Less than 10 salable minerals permits were issued. Work on reclamation continues as funding becomes available. The Forest worked on litigation on two minerals-related cases and two cases dealing with geothermal leasing. Some monitoring occurred on geothermal leases, and a small amount of activity occurred.

Transportation and Facilities Management

Goals: The goals are to provide an economical, safe, and environmentally sensitive transportation system; emphasize maintenance and restoration over new construction; and provide safe and effective administrative sites and facilities.

Monitoring: Much of the work in transportation management is routine and done strictly within established best management practices. Program activities are currently

monitored under forest resource programs. The transportation staff works closely with Forest resource personnel to identify road-related projects that will improve watershed health and mitigate potential resource impacts. Facility conditions are surveyed on a recurring basis. Comprehensive codes and regulations are used to ensure the accomplishment of proper planning, maintenance, construction, and accessibility upgrades.

Results: *Transportation:* According to the 2005 road accomplishment report, 1247 miles of road received maintenance and 2280 miles met Road Maintenance Objectives. No new roads were constructed. This exceeded expectations of 521 miles/year for maintenance and less than 10 miles/year for new construction, as projected in Table 4-1 of the Forest Plan. In addition, 11 pipe culverts were replaced with open bottom structures (arches) under the fish passage program and 14.7 miles of road were storm-proofed. Every effort is being made to complete all work on the ground using established best management practices, which are routinely monitored by Engineering Contracting Officer Representatives and Inspectors. Several of these projects are also being independently monitored by U.C. Berkeley; results are expected in 2006. An ongoing and very successful collaborative effort with Aquatic Resource Programs focuses on combining road, resource and grant funding to complete road-related key watershed improvements. Where possible, stream crossing fills are being replaced with low water crossings, open bottom arches or rock fills to restore fish passage and minimize the potential for future sediment production.

Facilities: During 2005, progress continued towards improving employee and public safety, comfort, historic preservation and accessibility. Funding was severely reduced from the previous year, so maintenance work was limited to essential repairs on critical facilities. Two Capital Investment Program (CIP) projects were awarded: Replacement for Happy Camp Helibase Facilities and the new Gooseneck Fire Facility at the Mt. Hebron Work Center.

Timber Management

Goals: The goals are to implement silvicultural prescriptions to achieve desired conditions, reforest lands allocated to sustained timber production within five years of harvest, actively reforest areas damaged by extreme events (such as floods, wind, fires, insect infestations), offer the allowable sale quantity, utilize dead and dying trees, implement post-sale treatments, and manage insects and disease.

Monitoring: The annual Planned Timber Sale Accomplishment Report has been used for assessing the allowable sale quantity goal. The reforestation and timber stand improvement goals are assessed each year by comparing accomplishments to targets, particularly for survival and certification of planted stands. The results are documented in the Forest Service Activity Tracking System and the yearly Plantation Survival Report.

Results: The Forest continued its efforts to meet timber targets assigned by the Region. The Forest exceeded its assigned target in fiscal year 2005. The timber program was

funded at a target level of 46,800 hundred cubic feet. The Forest offered approximately 53,400 hundred cubic feet. This volume included 42,000 hundred cubic feet of green material and 11,400 hundred cubic feet of salvage material. The majority of the sale program contains commercial thinning, sanitation, biomass, and salvage. The Forest was funded at a level lower than the allowable sale quantity. Timber sale unit costs increased as procedural requirements were complex, low volumes per acre proposed, and appeals and litigation common. Roadside hazard trees are being removed with timber sales where feasible.

The Forest continues to emphasize timber stand improvement activities. Treatments include a combination of older and younger plantations. Accomplishments are completed using both trust funds and appropriated funding. Integration with the fuels program is continuing with emphasis on treating stands within the wildland/urban interface to reduce fuel hazards. The Forest used mechanized equipment, masticators, to assist in reducing fuels while completing precommercial thinning actions. The reforestation program remains at a low level, due mostly to the lack of regeneration harvesting. Most of the reforestation efforts are confined to interplantings of understocked plantations and the reforestation of wildfires. Survival rates are still in the acceptable range, but not as high as desired. Animal damage efforts have concentrated on controlling gopher and deer problems on some of the younger plantations.

Insect and Disease control efforts were accomplished on all the Districts. Most of the activities included thinning in plantations for bark beetle prevention efforts.

Fire & Fuels Management

Goals: The goals are to reintroduce fire into the environment, reduce unacceptable fuel buildups, use the appropriate minimum impact suppression methods for wildfires, and develop management and protection strategies for intermixed state and private lands.

Monitoring: Management Attainment Reports were used in determining if acre targets were achieved. When implementing prescribed fire projects, smoke management plans are coordinated with the local Air Pollution District to assure adherence to smoke management guidelines; refer also to **Air Quality** section.

Results: Treating areas around Communities at Risk has continued to be a high priority for the Forest. Three of the larger areas are; Happy Camp, Sawyers Bar and Tennant. Many projects of smaller scale are also meeting the fuels reduction objectives within local communities. All of these planning and implementation efforts are coordinated with local fire safe councils and other cooperators often funded through Community Development, Resource Advisory Council, and National Fire Plan grants and agreements.

The Forest was assigned a fuels reduction target of 4159 acres. The prescribed burning

“window of opportunity” was conducive to exceed this target by 1381 acres. Over 50% of this overall target was prescribed burning. Also, over 60% of the total acres were within Wildland Urban Interface (WUI).

The fluctuations in budget continue to make it difficult to have a solid outyear program of work. This affects the organization (current & planned) along with other resource departments when integration is a direction of emphasis.

The Forest experienced a total of 66 wildland fires for the 2005 fire season. Thirty of these were “human” caused and the remaining thirty six were “lightning” caused. There was only one of significant size and that was the Wooley Fire which burned 2239 acres on the KNF and 892 acres on the SRF. This fire was assigned an Incident Management Team due to its remoteness & rugged terrain causing a safety concern to firefighters. The appropriate minimum impact suppression method to protect firefighter safety led to a relatively low impact fire rather than a stand replacing fire in the Marble Mountain Wilderness.

The Forest continues the implementation of Wildland Fire Use (WFU) in areas identified in the KNF Fire Management Plan. In FY05 two fires were identified as candidates for WFU, the “Westfork” on the Happy Camp district and the “Big Blue” on the Salmon River district. Both WFU fires stayed relatively small and were of short duration.

Prevention activities included the continuing involvement & establishment of Firesafe Councils (FSC) throughout the forest. The county FSC is writing a community Wildfire Protection Plan for the entire county that encompasses all private land within Forest Service boundaries. This Plan outlines the needs, provides assessments and priorities for fuel reduction projects. The county-wide FSC is continuing public information and education. Other prevention activities were residence inspections to ensure compliance with fire codes & regulations. Patrols were activated for public contact. Eight lookout towers were staffed again this year.

Range Management

Goals: The goals are to provide healthy ecosystems, make forage available on a sustainable basis, not retard or prevent attainment with aquatic conservation strategy objectives, provide forage to support big game objectives, and meet current livestock forage allocations.

Monitoring: Range Management Monitoring includes annual utilization monitoring, annual operating instruction effectiveness monitoring, and specific monitoring by Biological Opinion on May Affect Likely to Adversely Affect COHO and Steelhead Allotments. Best Management Practices monitoring occurs according to schedule on several allotments per year. Long term monitoring of vegetation changes occurs on five-year intervals. In addition, Forest Plan monitoring and specific riparian area monitoring occurs.

Results: The goal of providing forage for livestock and wildlife on a sustainable basis while managing grazing activities to meet Aquatic Conservation Strategy objectives is

moving forward as determined by range monitoring on allotments. Long-term conditions are meeting or moving towards meeting program goals.

Wild Horse Management

Goals: Program goals are assessed primarily through monitoring population numbers and removal of horses in excess of those numbers. Each herd has a specific population goal. McGavin Peak is 0 and Three Sisters is 10 head. The Forest Land Management Planning goal is to maintain one viable herd (Three Sisters) to herd population goals.

Monitoring: Annual population estimates are made through census by total numbers, sex and age class.

Results: In 1995, the population estimate for McGavin Peak Herd was 80 animals and Three Sisters 20. Capture efforts have removed 71 animals from the McGavin Peak herd and 15 animals from Three Sisters. Current estimates are 72 head for McGavin Peak and 15 for Three Sisters. Budget priorities did not support capture of horses this year and the Land Management area goals are not being met. Removal of McGavin Peak excess animals are scheduled to occur in 2006. Current trends do not support program goals. Forest Monitoring Plan is appropriate.

Heritage Resource Program

Goals: The goals are to sustain a progressive heritage resource program that includes the inventory of known archaeological and cultural sites, to determine the significance of each site, and to preserve eligible historic properties.

Monitoring: Two types of monitoring occur, related to Section 106 and Section 110 of the National Historic Preservation Act. As part of the review process for Section 106, historic properties that are potentially eligible and sites that are on the National Register of Historic Places are located and protected during project planning. After project completion, random sites are monitored to ensure that protection measures were adequate. As part of the evaluation process of properties eligible for nomination to the National Register of Historic Places for Section 110, the condition of properties is monitored and evaluated. This usually requires a single visit to monitor and possibly re-record the condition of the known archaeological sites.

Results: Monitoring data is reviewed each year as part of Section 106 and 110 processes, including the number and acreage of pre-project surveys, the number of sites interpreted, the number of cultural education classes held, and the number of tribes consulted. Project planning and 106 monitoring facilitate the location and protection of historic properties. Section 110 monitoring continues, and is based on funding and available time. The Forest continues to enter new heritage resource reports and new archaeological site information into a national database and map sites in the Forest Geographical Information System. In 2005, the Forest met the heritage database targets established by the Region.

Tribal Government Program

Goals: The goals are to improve relationships with Indian people, develop partnerships with local Native American organizations, and emphasize increased understanding, communication, and partnerships with Indian tribes, organizations, and communities.

Monitoring: Monitoring consists of tracking the actions taken to improve relations with tribal groups.

Results: Every year the number of consultation efforts with federally recognized and non-federally-recognized tribes increases as the tribes become more interested in National Forest issues. Agreements are developed and revised as necessary with the federally recognized tribes.

In 2005, the Forest continued government-to-government consultation efforts with the Yurok, Hoopa, Karuk, Quartz Valley Indian Reservation, Klamath, and Pit River Tribes, for example. The Forest, the Karuk Tribe, and the Happy Camp Community are making great strides in working collaboratively to address a variety of projects and issues to include vegetation management, fuels reduction, cultural burning, equipment contracting during wildland fires, renegotiation of the Mushroom MOU, precommercial thinning, and the application of grants and agreements.

Also in 2005, the Forest consulted and coordinated with the Klamath Tribes, Shasta Nation (Quartz and Butte Valley), and Pit River Tribe in the continuing development of the Medicine Lake Highlands Historic Properties Management Plan.

Consultation and coordination with the Karuk Tribe of California, Klamath Tribes, Shasta Nation/Shasta Tribe, Inc. (Quartz Valley), Quartz Valley Indian Reservation, Pit River Tribe, Yurok Tribe, Shasta Nation (Butte Valley), and Forks of the Salmon Indian Council continued in 2005 for numerous Forest Service projects.

Social and Economic Environment

Social

Goals: The goal is to develop partnerships with local and regional groups to emphasize environmental education, public awareness, and knowledge about Forest processes. Although not specified in the Forest Plan, the law provides a civil rights goal, which is to incorporate the expectation of non-discrimination and fairness into every program and process within the Forest. This is done through the development of partnerships with local and regional groups to emphasize the importance of consistency, nondiscrimination,

environmental education, public awareness, and knowledge of Forest processes and procedures.

Monitoring: The goals were assessed through a review of all other programs. Classroom hours and program dollars have been used as indicators for environmental education. Information is not currently aggregated at the Forest level for employee participation in Conservation Education with external groups. However, various program areas contribute a portion of their time and funding toward attainment of this national emphasis item. For civil rights, the number of complaints received, number of accomplishments in the Civil Rights Implementation Plan, number of programs represented in Title VI reporting, and number of employees attending training and briefings were reviewed.

Results: Efforts in cooperating with other agencies, organizations, tribes, and individuals are ongoing. The Forest cooperates with numerous partners in aquatic and terrestrial restoration projects; in surveying wildlife, fish, and rare plant habitat; in monitoring cave resources; and in maintaining snowmobile facilities. The Forest also provides environmental education programs for students and other groups in a number of resource areas. Extensive coordination and cooperation has occurred with numerous tribes; refer to *Tribal Government Program* section. The Forest in cooperation with other groups and agencies has assisted in securing rural development grants, in creating job opportunities and in placing workers through the rural development and community development programs.

Many Forest employees enthusiastically participate in conservation education programs in cooperation with the public schools by contributing their time and expertise in indoor and outdoor classroom education. For example, Siskiyou County Public Schools personnel conducted workshops with agency representatives and specialists to develop curriculum in various resource fields to satisfy their educational requirements.

Increased employee, partner and volunteer training and the establishment of the Civil Rights Implementation Team, have helped incorporate the civil rights message into many Forest programs and into partnerships. The Forest encourages respect in all areas of the work environment. All special use permittees and contractors are given "Equal Opportunity" posters, in English or Spanish, to post in their places of business.

Economic

Goals: The goals are to promote economic stability of local communities, develop partnerships for promoting economic stability, promote non-traditional Forest-based resource uses, emphasize a diversity of goods and services, highlight scenery and recreational opportunities, and encourage the utilization of wood products.

Monitoring: Indicators for contributions by the Forest to the local economy are expenditure levels, types and funding levels of community development grant programs, and projects derived from, as well as payments to, the county through the Secure Rural Schools and Community Self-Determination Act of 2000 (Public Law 106-393). Human resource programs contribute to Forest actions to support community development

Results: Historically payments to states, which compensate counties for federal lands, have fluctuated based upon timber and other forest receipts. In the past, payments were based upon a formula established by Congress that resulted in a predictable, but declining, amount each year. The Secure Rural Schools and Community Self-Determination Act of 2000 established a stable payment to Siskiyou County of approximately \$9 million per year for 6 years. This is the highest payment to any county in California. Eighty-five percent of the payment is dedicated to schools and roads with the remaining 15% benefiting National Forest System lands, split between projects initiated by the County and those based on Siskiyou Resource Advisory Committee recommendations.

Since 1992, community development programs have contributed significantly to economic stability and growth in Siskiyou County. During 2005, the Rural Community Assistance and National Fire Plan Grant programs were quite successful in bringing project funding into the county. One grant was written, totaling \$23,336, with a participant contribution of \$44,258.

Partnership agreements with local organizations have increased from fiscal year 2004. Eighteen participating agreements were completed or modified, totaling \$368,834 in expenditures (\$275,267 Forest, \$93,566 partners).

Partnerships and grants developed as part of the Public Law 106-393, Title II (Resource Advisory Committee Program) significantly added to the community development activities of the Forest. Seven grants totaling \$383,968 (\$244,311 Forest, \$139,657 partners), one Cooperative Agreement totaling \$67,150 (\$53,150 Forest, \$14,000 partner), one Participating Agreement totaling \$36,500 (\$33,500 Forest, \$3,000 partners), were approved through the Resource Advisory Committee Program. In addition, \$225,798 was directed at Forest Service projects, which drew contributions from outside organizations of \$132,315. A total of \$9,270,799 was received by Siskiyou County under Public Law 106-393. This was directed to projects recommended by the Siskiyou Resource Advisory Committee (Title II) and directed to county-initiated projects through Title III.

Public Interaction and Involvement

Goals: Use all opportunities to gather and share information regarding Klamath National Forest Management.

Monitoring: Accomplishments are summarized based on both measurable outputs, and informal sensing and feedback from employees and members of the public.

Results: Communication involves listening and gathering information as well as sharing information. For the purposes of this summary, those two categories are discussed separately. It is well recognized, however, that most communications involve an exchange in which both parties gain new information and perspective.

In 2005, the Forest sent out more than 45 news releases to print, television and radio media; receptivity was high and nearly all releases were published or aired, although very little television coverage occurred. The news releases covered a variety of forest programs including fire, administrative issues, wildlife, botany, forest-sponsored events and others. The Forest also made improvements to its web pages, most notably the Klamath River information and the outfitter and guide pages. The Forest continued to post decision documents, planning schedules and news releases to the web page.

Another emphasis item in 2005 was the Klamath NF and USDA-Forest Service Centennial Celebrations. The Forest held both public and internal events to celebrate its proud traditions, discuss future direction, and offer information on Forest Service history.

Fire, including fire prevention and fire suppression, also continued to be an area of emphasis for outreach efforts. Fire prevention efforts including displays and participation at the Special Olympics, newspaper inserts, direct contacts with visitors in the woods, and participation at the County Fair. Many fire prevention activities were done in cooperation with the California Department of Forestry and Fire Protection (CDF). The presence and activity of Fire Safe Councils in the County continues to grow, due in part to Klamath National Forest and CDF facilitation.

The Forest participated once again in the French Creek Outdoor School, a conservation education program done in cooperation with the Siskiyou County Department of Education. This program educates 6th graders in natural resource fields, including geology, hydrology, forestry and working in teams. Forest service staff also made presentations to local schools in classrooms.

The Forest sponsored a meeting of the Interagency Advisory Committee, a Federal Advisory Committee with intergovernmental participation, responsible for the implementation of the Northwest Forest Plan. The group did a field tour in August to review forest stand conditions and the opportunities and need for vegetation management, especially stand density reduction.

The Forest sponsored several outreach events this year, including the annual Mother's Day wildflower show, family fishing derbies at Juanita and Kelly Lakes, and career days. In addition to its cooperative fire prevention booth with the California Department of Forestry and Fire Protection, the Forest also had a cooperative noxious weed education booth and an elk management booth. The Forest held formal public meetings to gather scoping information for forest management projects, including its Off Highway Vehicle Route Designation process.

In addition to its outreach and education efforts, the Forest receives many visitors and informational inquiries each year. Based on limited data, front desk staff in the Supervisor's Office responds to between 1000 and 1500 phone calls and nearly 6000 visitors annually. The Forest web page receives approximately 45,000 visitors each year; direct inquiries via its web page add another approximately 50 requests for information annually. The Forest also responds to information requests through the Freedom of Information Act - 57 of these in this year. Finally, forest visitors frequently stop and talk with forest employees while out on Forest roads, trails, and in campgrounds.

Northwest Forest Plan Monitoring

Implementation monitoring on the Forest related to the Northwest Forest Plan has been ongoing for ten years. Effectiveness monitoring at the Northwest Forest Plan scale is currently in progress to test the effectiveness of the Forest Plan land allocations and standards and guidelines relating to key issues; watershed, old growth, northern spotted owl, marbled murrelet, social, economic and tribal. Monitoring documents and results are available on the web:

<http://www.reo.gov/monitoring/implementation>

Potential Forest Plan Amendments and Corrections

No Forest Plan Amendments or corrections are proposed at this time.

Public Participation Plan

A notice of the Fiscal Year 2005 Monitoring and Evaluation Report will be mailed to those who have requested it. Copies will also be provided to the Klamath Provincial Advisory Committee. The report will be posted on the Forest's web page.

Supporting Documentation

The supporting information for this report is on file in the various resource departments in the Supervisor's Office and at the District Ranger Offices.

Contract award documents for two facility CIP projects

Klamath Bird Observatory, April 2005. Local and Regional Trends in Breeding and Migratory Bird Populations in the Klamath and Rogue River Valleys: Monitoring Results for 1993-2003

Northwest Forest Plan 10 year reports:

Older Forests: http://www.fs.fed.us/pnw/publications/pnw_gtr646

Spotted Owls: http://www.fs.fed.us/pnw/publications/pnw_gtr648

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