Six Rivers National Forest

Land and Resource Management Plan

Monitoring and Accomplishments Report

Fiscal Year 2007

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Introduction

The purpose of the Six Rivers National Forest fiscal year 2007 Monitoring Report is to disclose monitoring accomplishments associated with the monitoring program outlined in the Six Rivers National Forest Land and Resource Management Plan (LRMP). This report also includes activities on the Ukonom Ranger District which is part of the Klamath National Forest, but administered by the Six Rivers National Forest (Forest). The Forest's management strategy and subsequent monitoring are designed and implemented with the intention of achieving the management goals associated with each resource management area. This document addresses by resource area, goals, monitoring and accomplishments for FY2007 that occurred between October 1, 2006 and September 30, 2007.

Monitoring is an important step in the management process to determine if the Forest's management strategy has been appropriately implemented and are effective in achieving the identified goals. Monitoring observes and records both the effects of natural processes and the results of actions permitted by the LRMP. It is conducted at a variety of levels and scales, as deemed appropriate for each resource area. This document will address project level monitoring, LRMP monitoring, and resource-specific monitoring.

Project level and LRMP monitoring, is implemented in accordance with the Land and Resource Management Planning Handbook [FSH 1909.12, Chap. 6, WO Amendment I, 7/88]. It is limited to those actions necessary to comply with the regulations set forth by the National Environmental Policy Act (NEPA) and the National Forest Management Act (NFMA). Resource-specific monitoring is additional monitoring that is required by other laws, executive orders or supplemental plans (such as Threatened and Endangered Species Recovery Plans). Resource-specific monitoring is typically conducted to gather needed resource information and to validate management assumptions. This information can best be displayed by identifying the objectives, methods and results associated with the performed monitoring. Project level monitoring examines how well specific management direction (standards and guidelines) is applied on the ground and how effectively it produces desired or expected results.

Forest/Resource-Specific Monitoring Program by Area

Air Quality Management

Goal

To maintain air quality at acceptable levels for the protection and use of Forest resources and to meet applicable Federal and State standards and regulations (LRMP IV – 106).

Monitoring

In 2001, the State Air Resources Board (ARB) adopted Title 17 of the California Code of Regulations regarding Agricultural Burning Guidelines. Revisions included a significant emphasis on the development of Smoke Management Plans by prescribed burners, and advanced planning and consultation between prescribed burners, air districts, and the ARB to ensure greater emphasis on smoke prevention and reduction to smoke sensitive populations.

North Coast Unified Air Quality Management District (NCUAQMD) monitoring stations are located where human impacts would be the greatest (i.e., population centers of Eureka, Weaverville, and Crescent City). These stations show that all Federal standards are met for the NCUAQMD, but the State PM10 standard is not met. Prescribed burns and other management practices on the Six Rivers National Forest have little chance of affecting readings at these stations due to their distance from the Forest.

Siskiyou County monitoring stations are also located where human impacts would be the greatest (i.e., Yreka, Mt. Shasta, Lava Beds National Monument). Prescribed burns and other management practices on the Ukonom District have little chance of affecting readings at these stations due to their distance from the District. State and Federal standards were met for ozone and PM10 attainment was achieved for Siskiyou County in January 2006.

Recent mapping has also shown that the entire Six Rivers NF is in attainment for Federal PM2.5, 8-hr ozone, and National Ambient Air quality Standards (NAAQS) for ozone at 0.075 ppm.

Table 1 displays the number and acres of prescribed burning across the Forest for 2007. The majority of these burns occurred within the wildland urban interface, where smoke impacts to humans would have had a higher chance of occurring.

Table 1. Number of prescribed fires and acres burned

FY 2007	WUI	Non-WUI	Total
Number of prescribed fires	19	5	24
Acres	692	186	878

For this time period, two air quality complaints were received in March in the Salyer area by the NCUAQMD regarding prescribed burning on the Forest. According to the NCUAQMD, these two alleged smoke complaints were unverified and no further action was taken. Siskiyou County did not register any Forest Service related complaints in FY2007. No other observable undesirable smoke impacts requiring mitigations of prescribed burns occurred.

One of the largest prescribed burning efforts in FY2007 was the Salyer/Hawkins Bar project on the Lower Trinity Ranger District. Due to its proximity to private property with residences, monitoring of smoke was conducted throughout the burn operation. NCUAQMD personnel also visited the area during burn operations in May of 2007. Smoke production was light to moderate at times during the prescribed fire, with the smoke rising straight above the canopy and dissipating from between 200-1000' above ground level (AGL). Residual smoke showed good atmospheric mixing, which blew northeast, away from nearby neighbors and communities.

Fuels Management

Goal

Provide well-planned and well-executed fuel management programs (including fire use through prescribed burning) that are responsive to land and resource management objectives (LRMP IV – 116).

Monitoring

Table 2 shows the reported natural fuel treatment accomplishments for 2007. The natural fuel treatment acres are split by Wildland Urban Interface (WUI) acres vs. non-WUI acres, with over 81% of the fuel treatments being accomplished in the WUI. Two burning projects (Orleans Ranger District – 4 acres, Lower Trinity Ranger Distirct – 1 acre) were focused on beargrass treatments to stimulate basketweaving materials.

Table 2. Acres of natural fuel treatments

FY 2007	WFHF Number	WFHF Acres
WUI	34	1676
Non-WUI	9	388
Total	43	2064

BMP's were monitored for category F25 Prescribed Fire in Salyer-Hawkins CPFP Units 6 and 7. Both units met Forest standards for implementation and effectiveness.

Post-burn monitoring was conducted on Unit 6 of the Salyer/Hawkins Bar project, where approximately 34 acres were treated on May 10, 11, and 21. An estimated 85% of the treatment area was burned successfully. Nearly all objectives of the burn, as stated in the Salyer/Hawkins Bar CPFP Burn Plan, were met with favorable results. Three monitoring plots were recorded in Unit 6, with Plot #3 showing the best results. Nearly 100% of 1-hour fuels (0 - .25 in) were consumed, around 90% of 10 hour fuels (.25 – 1 in.) were consumed, and approximately 70% of 100 hour fuels (1 – 3 in.) were consumed. These numbers suggest that most of the understory standing biomass and forest floor accumulation was consumed. These plots will be checked for new growth in the years to come.

Many crowded seedlings of various tree species were randomly thinned by fire, creating a more spacious growing environment. Utilizing crews to construct handlines around snags and logs was a major factor in achieving desirable results in terms of retention of these components. Fuel loading within Unit 6 was light to moderate and carried fire well throughout the unit. The operation was very successful in eliminating understory fuel loading and reducing fire hazard.

Dead fuel accumulations were consumed and in many areas the fire consumed ladder fuels, thereby decreasing fire hazard in this WUI area, right next to private property.

Firing started slowly due to higher fuel moistures and relative humidity, but conditions improved in the latter part of each of the burn days. In future burns under similar conditions, it may be appropriate and cost effective to begin operations later and burn further into the evening hours. The firing pattern of utilizing multiple lighters in a staggered formation was very effective. Winds cooperated nearly the entire time, blowing smoke away from the private property and holders in the "green" and additionally blowing smoke back into the burn area.

Fire Management

Goal

Provide well-planned and well-executed fire protection and fuel management programs (including fire use through prescribed burning) that are responsive to land and resource management objectives (LRMP IV – 116).

Monitoring

Table 3 shows the number and total acreage of wildfires recorded for 2007, which was a relatively quiet year, with only 49 wildfires and 160 acres burned. The largest wildfire for 2007 was the Jedediah Fire on the Smith River National Recreation Area (SRNRA) – 85 acres, which was lightning caused. This fire was part of a group of seven fires started by lightning on the SRNRA from 7/11-7/13/2007.

For human-caused wildfires, incendiary fires accounted for the largest number of human-caused fires in 2007 (16), but with minimal acreage (14 ac.). No children-caused fires were recorded in 2007. Only five campfire-related fires were recorded this year, a decrease from the nine escaped campfires recorded in 2006.

Table 3. Number and acres of wildfires by cause

2007	Total	Human	Lightning
# Fires	49	39	10
Acres	160	29	131

The Forest's fire management strategy emphasizes protection of resources of concern during fire suppression. Resource specialists are involved upfront to identify resources at risk from a fire and to identify potential measures to reduce the impact on these resources from fire suppression activities.

Lands

Goals

Reduce land management problems and minimize conflicts between uses of National Forest System and adjacent private lands, and

Actively pursue and eliminate illegal occupancy and use (LRMP IV-118).

Land Adjustments

Monitoring

The Forest Land Adjustment Strategy (LRMP, Appendix O) provides direction of various land adjustment methods to reduce land management conflicts. These methods include land purchase, exchange and donation. In areas of intermingled private and federal ownership, these methods can be effectively used to eliminate property line and use problems. All these methods require a willing proponent. Between 2001 and 2005 the Forest had one land donation involving one acre of river access to the Middle Fork of the Smith River. Between 2005 and early 2008 the Forest completed purchase of the 9,483 acre Goose Creek parcel in SRNRA. The purchase took place in three stages with 3,518 acres acquired in 2005, 1,579 acres acquired in 2006 and the last 4,386 acres acquired in early 2008.

The successful donation and completion of the Goose Creek acquisition indicates the Forest's Land Adjustment Strategy has been implemented appropriately. These transactions have also resulted in cost savings by eliminating the need for surveying over 20.75 miles of land line for this large in-holding in the SRNRA as well as providing additional resource protection by eliminating potential impacts of logging on Goose Creek, an anadromous stream.

Land Use Authorizations

Monitoring

Land use authorizations are administered to ensure the use of National Forest System lands for specific purposes by adjacent landowners and others are permitted and compliant with the Six Rivers LRMP. The most common of these uses include waterlines, access roads, communication sites and utility lines. The Forest has over 300 issued permits and a backlog of expired permits and new proposals. The focus for the program is administration of the existing permits to Forest standards and guidelines and processing the expired permits that meet Forest standards in order to re-issue them. The Forest administered 26 permits to standard, re-issued 15 to 20 permits per year and issue approximately 5 new permits per year.

From 2001 through 2007 the Forest received 30 verbal and two written complaints about the amount of time it takes to get a permit issued or re-issued. The time it takes to complete the environmental review and documentation for permits varies depending on the type of use, location of the activity and the resources that may be impacted by the requested use. Up to 2006, the limited funding for administration of special uses substantially contributed to the processing backlog. Starting in 2006, the regulations changed to allow for the charging of processing fees for most lands related special use permit. This additional funding helped to shorten the back log list and provide for additional monitoring.

Boundary Management

Monitoring

The Boundary Management Program includes survey, posting and monumentation of the Forest's property lines. The Forest has approximately 960 miles of property lines adjacent to private property. Through the years, 90% of this line has been posted and their associated corners monumented. Due to wildfire, vegetation growth and vandalism, property lines require

maintenance after 25 years. To keep up with maintenance would require doing approximately 29 miles of property boundaries a year. The Forest maintained from three to six miles of property line per year from 2001 through 2006 due to limited funding. Starting in 2007, additional funding became available to do landline maintenance work associated with proposed timber and fuel reduction projects. Thirty eight miles of property line were maintained to standard by Forest Service personnel or contracted to be done. The landline work done in 2007 resulted in the discovery of four encroachments including two residences straddling the property line. Resolution of these encroachments is currently in progress.

Minerals

Goals

Manage National Forest System lands that are not withdrawn from mineral entry to encourage and facilitate the exploration, development and production of mineral resources while ensuring that these activities are integrated with the use and protection of other resources (LRMP IV-119).

Mineral Operations

Monitoring

Minerals operations for locatable minerals (gold, silver and other precious metals) are controlled by surface use regulations in Title 36 of the Code of Federal Regulation, Section 228. The Smith River National Recreation Area (NRA) supplements the regulations in 36 CFR 288 with additions regulations specific to the NRA in 36 CFR 292.60. A mineral administrator periodically visits operations to ensure compliance with the accepted Notice of Intent (NOI) and Plans of Operation (PoO). Operations not in compliance with plans are followed up with appropriate actions.

The Forest regulates a continuing program of small suction dredging and panning activities. The number of active claims and the intensity of exploration fluctuate with the price of gold. The Ukonom Ranger District is the main area of mining interest with the Orleans Ranger District the second most popular area. From 2000 through 2003, there were from four to seven NOIs. The mining activities were all monitored for compliance with their operations as they identified them in their NOI. During the 2004 mining season, no NOIs were accepted on the Salmon River. In 2005 the Ukonom Ranger District portion of the Salmon River was closed to suction dredge mining by the State of California, Department of Fish and Game due to the need to protect threatened anadromous fish. As a result of a lawsuit in 2006, the State of California Department of Fish and Game withdrew their closure and again opened up the lower Salmon River to suction dredging. The withdrawal was the result of a lawsuit. In 2006, the Orleans/Ukonom Ranger District had several miners suction dredging under an NOI. Activities on the Smith River in 2005 and 2006 include one suction dredge operation under a PoO. There were no NOI's or PoO on the remaining Districts. In 2007 there were five NOI's on the Ukonom RD, one on the Trinity River and one on the Smith. There were no PoO's on the Forest in 2007

Historically (1860's through 1930's) there was extensive hard rock mining on the Gasquet, Ukonom and Lower Trinity Ranger Districts. This resulted in many abandoned mining adits and shafts. Starting in 2003 the Forest began identifying adits and shafts that should be closed. In 2004 the Forest closed two adits. In 2005 the Forest closed 8 adits and 5 prospect holes. In 2006

there were no safety closures. In 2007 there were 8 adits and shafts closed. The Forest has plans to close additional adits and shafts in future years subject to funding.

Mineral Materials

Monitoring

The mineral materials program provides opportunities for the public to purchase sand, gravel and river rock. Mineral materials (sand, gravel and rock) are regulated by permit with permit conditions monitored for compliance by a mineral administrator. Most permits are for less than two cubic yards of material to be hand picked from two specific sites, one at Hawkins Bar on the Lower Trinity Ranger District and the other at Dolan's Bar in Orleans. In total approximately 80 low volume mineral material permits are issued annually. These sites are periodically monitored for compliance with the mineral material permit. The Forest does have two commercial sites that are used every year. One site is one quarter mile below Big Rock on the Trinity River in Willow Creek and the other is a borrow pit near the Salmon River. Approximately four sales per year are transacted for between 1,000 to 20,000 cubic yards. These sites are monitored for permit compliance annually

Transportation Management

Goals

Provide public access to National Forest System lands for the use and enjoyment of its natural resources. Provide a safe, efficient and cost-effective transportation system. Provide access for the physically challenged to a wide variety of Forest Service programs, services and activities (LRMP IV – 115).

Accomplishments

The Forest managed 2,850.2 miles of road in FY 2007 of which 2365 miles are open for public access. Of the 2,350.2 miles of road open to the public, 755.8 miles are managed as roads passable to passenger cars and the remaining 1,609.2 are managed for high clearance vehicle use.

In 2006, there were no new permanent roads constructed and 4.9 miles of system roads and .5 miles of non-system road were decommissioned. Most maintenance and repairs occur on roads rated for passenger car use, which are primary arterial or collector roads or on secondary roads that have a specific resource or safety need that has to be addressed. In FY07, 472.4 miles of Forest roads open to the public received some level of maintenance activities.

Forest roads were designed for commercial use with a maximum speed limit of 25 miles per hour. These roads need regularly scheduled maintenance to maintain adequate driving surfaces, site visibilities and drainage structure maintenance. The road system is currently minimally maintained and is safe to operate by a prudent driver who operates his/her vehicle in a safe manner with consideration of existing road conditions.

Recreation Management

Goal

The overall goal for the Forest's recreation program is to provide a wide range of quality outdoor recreation opportunities, emphasizing the unique character of the Six Rivers by providing access, facilities, and information necessary to meet public demand (LRMP IV – 122).

Overview of Recreation Program

The Forest's Recreation Program focuses on four key areas. These emphases continued to guide the programs in FY07. They are 1) rivers and water-based recreation; 2) special areas such as SRNRA, scenic byways, botanical areas, etc.; 3) cultural heritage riches and legacies such as 1930s Civilian Conservation Corps (CCC) architecture, historic mining and logging, and native American culture; and, 4) uncrowded backcountry opportunities for recreation and solitude focusing on dispersed areas rather than wilderness.

National Visitor Use Monitoring

The Forest prepared for conducting National Visitor Use Monitoring (NVUM) surveys which will occur throughout the Forest in FY07. Surveys asking the same questions as the 2003 round will give comparative information and/or provide new information about forest visitors' preferences and observations.

The Forest took part in the NVUM Project in 2003 which is a key monitoring effort for the agency's Recreation Management Program. A two-page summary, National Visitor Use Monitoring Project, Six Rivers National Forest Results, September 2004, is available by contacting the Forest Recreation Officer. Based on the 2003 NVUM survey results, the five most important items to Forest visitors were 1) condition of the environment, 2) scenery, 3) feeling of safety, 4) restroom cleanliness, and, 5) value for fee paid. There was high satisfaction in these five areas. Other results showed categories where satisfaction could be improved: interpretive displays, signage adequacy, recreation information availability, restroom cleanliness (in dispersed areas), and parking availability.

Wilderness and Wild Rivers

Goals

The goal of wilderness management is to preserve the integrity of the wilderness resource as described in the Wilderness Act (LRMP IV-11).

The goal of wild rivers is to protect their free-flowing conditions and outstandingly remarkable values for which the rivers are designated, and to provide for the benefit and enjoyment of present and future generations. (LRMP IV-26)

Monitoring

Wilderness

With the passage of the Northern California Coastal Wild Heritage Wilderness Act on October 17, 2006, the Forest gained an increase of 28% or 60,264 acres of wilderness for a total of 231,224 acres including the 50,000 acres of the Marble Mountains Wilderness of the Ukonom

RD managed by the Forest. The Six Rivers' portion of Siskiyou Wilderness expanded by 30,122 acres; the Trinity Alps portion by 22,863 acres. A new wilderness was created in the southern area of the Forest – Mt. Lassic Wilderness – at 7,279 acres. The addition of these new acres creates additional management responsibilities and challenges.

The Forest solely manages the North Fork and Mt. Lassic Wildernesses; it shares management with three lead forests for four wildernesses (Siskiyou, Marble Mountains, Trinity Alps, Yolla-Bolly Middle Eel). No formal monitoring was conducted within the North Fork or Mt. Lassic Wildernesses in FY07. No formal monitoring was conducted within the Six Rivers portion of the Siskiyou, the Marbles, or the Yolla-Bolly Middle-Eel Wildernesses.

Wild Rivers

No formal monitoring was conducted, though informal monitoring was conducted through visual observation by recreation and fisheries staff along portions of the North Fork Smith River corridor during float trips and fish surveys within the area. Results of this monitoring showed no deviation from management direction. SRNRA offices did not receive any comments concerning conditions of the Wild River sections, nor did the local office for the Wild section of the Trinity.

Recreational and Scenic Rivers

Goal

The goal of recreational and scenic rivers is to maintain and enhance the outstandingly remarkable values for which the rivers are designated and provide recreational opportunities that do not adversely impact or degrade those values (LRMP IV-60, IV-55).

Monitoring

Informal monitoring was conducted through visual observation by recreation and fisheries staff along portions of the North Fork Smith, Salmon, Klamath, and Trinity River corridors during float trips, OHV patrols and fish surveys. Informal monitoring of concentrated use areas were conducted during routine patrols by recreation staff and OHV patrols. Results of this monitoring showed no deviation from management direction.

Smith River NRA

Monitoring

National Recreation Area staff performed informal monitoring through public involvement meetings for individual projects during the year. Results of this monitoring showed no deviation from management direction.

Partial Retention VQO

Monitoring

No formal monitoring. No problems were identified through informal monitoring.

Dispersed Recreation

Goals

Manage recreation resources in a sustainable manner compatible with other ecosystem values. Emphasize dispersed recreation along river corridors and existing trails and roads that provide access to the forest interior. Continue to encourage semi-primitive non-motorized, semi-primitive motorized, and roaded recreation in areas with compatible Recreation Opportunity Spectrum (ROS) standards (LRMP IV-122).

Monitoring

Twenty-eight percent of the major concentrated use areas (CUAs) within the SRNRA (15 out of 53 identified) were monitored several times a week during the summer season; these are associated with rivers or some type of water access. Results of this monitoring showed no deviation from management direction. Other CUAs are primarily used for dispersed camping. Of the remaining 38 sites approximately 25 are heavily used and were monitored several times a year. The 13 remaining sites are monitored as need or opportunities arise. The problems at CUAs are generally unattended fires and litter.

Shelley Creek CUA was noted as a problem area in FY06 due to littering by dispersed campers, motorized vehicle use violations, sanitation problems created by human waste disposal, and other affiliated problems. A significant decrease of improper disposal of human waste was noted at Shelly Creek as a result of having a portable toilet available May 30 through September 30, 2007. Camping was prohibited at the tanker fill which also helped in decreasing improper disposal of human waste and litter. There are still the problems of litter in the area but not to any greater extent than any other river access site.

In addition, a persistent and growing problem throughout the Forest is the illegal dumping of household garbage, drug lab paraphernalia and toxic waste byproducts, abandoned vehicles, trailers, refrigerators, water heaters, etc. in locations that are easily accessible via many Forest System roads. These dump sites are often adjacent to dispersed camping or day use sites, or along forest roads where they are a major eyesore and often a safety hazard. The Recreation Program every year devotes part of its program funds to clean up the worst of these sites, but there are more dump sites than available funds.

One persistent site where this issue was resolved in FY07 was Tunnel Flat, a river access location on the Lower Trinity RD. Dumping at this location was affecting river water quality. The Trinity County Resource Advisory Council provided $80,000 to do site clean-up that required a hazmat team to clean up household garbage, paint containers, propane containers, and other unknown materials. In addition, the existing river access trail was extended closer to the road, the road was gated, a parking area was developed, the trailhead signed, river access signed, and a highway sign installed. Since this dumping area has been mitigated, there have been no further problems.

Trail condition surveys on 20% of 400 miles of trail (80 miles/year) were conducted in 2007. Results from the annual trail inventory indicate that emphasis for maintenance is placed on the trails most popularly used by the public and four nationally designated recreation trails. The trails budget, in sync with federal budget trends for natural resources agencies, is in a downward trend. Trail work is increasingly dependent volunteers, grant funding, and other sources of

budget supplementation. Many trails have grown over and need reconstruction and heavy maintenance to make them usable again.

Motorized Recreation (OHV)

Goals

Provide a range of recreational opportunities to meet the needs of motorized recreationists. Manage motorized recreation to provide for public safety and resource protection, and to reduce user conflicts. Develop a cooperative effort with State, local and other agencies, Tribes and user groups to identify potential motorized recreation facilities and interpretive opportunities. Provide planning and implementation of the California Backcountry Discovery Trail as outlines in the MOU between BLM, USDA-FS and the State of California (LRMP IV – 123).

Monitoring

The Six Rivers National Forest Plan allows Off-Highway Vehicle (OHV) travel on designated routes only; there are no open areas available for OHV use. OHV opportunities have been identified on the SRNRA, Orleans and Lower Trinity Districts in order to provide opportunity and at the same time reduce the risk of spreading Port-Orford-cedar root disease. As part of the Route Designation Process, surveys of unauthorized motorized trails and routes on the Orleans, Ukonom, Lower Trinity and Mad River Ranger Districts (RD's)in FY05 through FY06 indicate that the amount of these routes progressively increases from north to south on the Forest due to changes in vegetation and topography such as gentler versus steeper slopes. Mad River Ranger District appears to have the best OHV opportunity with the least resource concerns and conflicts.

Travel Management/OHV Route Designation Strategy

In accordance with the 2005 National Transportation Rule and the Route Designation Process, the Smith River National Recreation Area Road Management Route Designation Project Environmental Analysis was completed and decision signed on September 27, 2007. However, this decision was reversed by appeal and a new decision is pending further analysis.

The Orleans Transportation and Road Restoration Project Environmental Analysis was completed and decision signed on March 28, 2007. A Motorized Visitor Use Map is planned to be available later this year.

In 2006, Lower Trinity and Mad River RDs' inventory of non-system routes was completed. Beginning in October 2007, public workshops were held and more workshops continue to be held to share information, review and determine if traveled routes have been identified, and gather information about opportunities and benefits as well as hear concerns with the individual routes for these two Districts. This input will ultimately serve as the basis for development of a proposed action to be analyzed under the National Environmental Policy Act.

OHV Monitoring/Impacts

Unauthorized OHV use has been an ongoing problem in the Sandy Bar area along the South Fork, Trinity River This order expired and was never reissued.

Pilot Creek Trail Use Strategy

Implementation Monitoring

The Mad River Ranger District implemented the first two of three phases of the Pilot Creek Watershed Trail Use Strategy (1999). The first two phases of the strategy used a variety of design features (e.g. installation of water control features, hardening channel crossings, placement of artificial tread, minor trail re-routes, and tread repair). Twenty-two miles of new designated OHV routes resulted. Ultimately, this project will provide off-highway vehicle recreational opportunity on a total 29 miles. Future development of five trailhead/staging areas and fourteen primitive campsites is also part of this project.

In 2007, off-highway vehicle (OHV) monitoring was conducted on a routine basis across the Forest in areas of known unauthorized motorized use where resource impacts have been documented (e.g. Lassics Botanical Area and Sandy Bar). Also, routine monitoring occurred primarily on level 2 roads enroute to trails and on trails in the 25,442-acre Pilot Creek OHV emphasis area.

Project-level and site-specific monitoring, as well as more extensive state-required monitoring is implemented annually within the Pilot Creek area. The purpose of the project-level and site-specific monitoring is to meet requirements outlined in the LRMP, the Pilot Creek Watershed Trail Use Strategy Environmental Assessment (EA), and the National Marine Fisheries Service Biological Opinion (BO). The monitoring required by the state is due to funding received through the State of California OHV Grant and Cooperative Agreement Program requiring that the funded area meets the California soil loss standards and the Wildlife Habitat Protection Program guidelines. In 2007, the required monitoring was completed including monitoring at 15 established photo points locations, seven of which are located at perennial channel crossings. No resource concerns were identified at any of the 15 photo point monitoring locations.

Through visual observation, most of the trail use in the Pilot Creek area has been by foot, horse, motorcycle, ATV, cattle, and wildlife. Motorized use levels are generally low but increases are noted, especially during hunting season.

Trail maintenance and the design features identified in the Pilot Creek Trail Strategy completed from 1999 through 2007 were found to be adequate and functioning effectively. Monitoring of the Pilot Creek area confirmed that use is not effectively limited or restricted to designated trails resulting in varying degrees of resource damage. Further, monitoring determined that motorized use across the Forest is not effectively limited or restricted to designated Forest Service (Level 2) roads. Therefore, most frequent illegal motorized use occurs off Level 2 Forest Service roads, on Level 3 or higher Forest Service roads or over land, especially in the southern half of the Forest during hunting season. This has also been confirmed within wilderness, primarily within the new Mt. Lassic Wilderness, which encompassed most of the Lassics Botanical Area, and the North Fork Wilderness. Patrol efforts during hunting season around the perimeter of the wilderness and near the remaining botanical area will continue due to previous OHV cross-country travel problems. Barriers (i.e., boulders) have been placed along the perimeter of the Mt. Lassic Wilderness and Lassics Botanical Area at entree sites to eliminate or minimize cross-country motorized use. Additional barriers have been placed elsewhere across the Forest in areas requiring resource protection.

Heritage Resources Management

Goals

Identify, evaluate, and provide for public appreciation of cultural resources on National Forest lands. Maintain a well-balanced heritage resource program in the areas of prehistory, history, ethnography, and contemporary values. Recognize the contemporary values of the American Indians who use the Forest and provide positive resolution where other resource uses conflict with those values (LRMP IV – 114).

Monitoring

Heritage Resources monitoring occurs in two different formats. Both are provisions of the National Historic Preservation Act of 1966 (NHPA) and the First Amended Regional Programmatic Agreement (PA) among the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (2001). Implementation monitoring is directly related to projects and constitutes Section 106 monitoring. The purpose of this monitoring is to ensure that heritage resources are protected from potential disturbances during project activities. Additionally, as a condition of the Programmatic Agreement, a specified number of historic properties not located within federal project areas are monitored every year. These monitoring activities are related to Section 110 of the NHPA. While Sec. 110 monitoring exceeds Six Rivers' LRMP monitoring requirements, it is viewed as an essential component of the Region's agreement with SHPO. Table 4 summarizes Heritage Resource monitoring activities for 2007.

Table 4. Number of heritage sites monitored

Year	Sec. 106 Monitoring ("Implementation Monitoring")	Sec. 110 Monitoring
2007	19	7

Heritage work on projects suitable for application of the "Interim Protocol for Hazardous Fuels and Vegetation Reduction Projects" was undertaken during 2007. Several projects were in phase 1, identifying project areas and eliminating unsuitable areas from the project due to inaccessible terrain, etc. Monitoring was stipulated for work within, or within close proximity to, a few specific sites. No post-project inventory or evaluation has been made on projects, thus far, but is required within one year of site clearing. In some instances the project boundaries were modified as part of site protection mitigation measures.

Monitoring during project implementation is frequently used as a protection and mitigation measure, particularly when tribal interest and affiliation is high. Tribal monitors frequently monitor sites in addition to Forest Service staff archaeologists. Historic mining sites sometimes compromise pre-contact sites due to hydraulic dislocation of artifacts. Alternately, riverbank flooding can relocate artifacts and create the appearance of a site. No inadvertent effects to heritage sites were reported in 2007.

Seven sites were monitored outside of project work areas, meeting the criteria for Section 110 work. Most of these were monitored for condition assessment. The monitoring at Sandy Bar site confirmed problems with past and present evidence of looting, vandalism, and pedestrian traffic. Monitoring forms and photo-documentation were prepared and filed. The affiliated Tsnungwe

tribe was notified. SHPO and ACHP have not yet been notified of any 2007 damage, although they are aware of on-going problems with the site.

During 2007, no sites were formally evaluated for nomination to the National Register of Historic Places. Three sites were evaluated for significance, a Determination of Eligibility was prepared for each, and these are expected to be submitted during 2008.

Vegetation Management

Goals

Manage vegetation to maintain biological diversity at all physiographic scales. A combination of management strategies in both reserved and matrix areas shall provide a range of ecological conditions, meet a variety of resource objectives, and provide a continuous supply of forest products. (LRMP IV – 74)

Vegetation across the Forest shall be managed to reflect the range of conditions characteristic of recent, historic vegetation patterns and disturbance regimes. A mix of different aged stands will occur across the Forest in proportion to the mix, which appears to have existed in the past few centuries. Large and small patches of young stands will be created through wildfire, timber harvest, landslides and other disturbance. Older stands will be maintained and generated through natural succession, small-scale disturbance, silvicultural treatment, fuels treatment and fire suppression.

Conservation of late-successional vegetation is emphasized to provide essential habitat for species dependent on these forest conditions. The spatial and temporal distribution of old-growth stands throughout the landscape is an important component of ecosystem diversity. The long-term goal of reducing fragmentation in late-successional forests is intended to create a contiguous forested landscape that provides well distributed, functional habitat for late-successional forest related species, such that their populations remain viable and persist over time.

Accomplishments

Maps of the existing vegetation for the Forest were updated through aerial detection surveys in collaboration with the Region 5 Remote Sensing Lab (approximately 1 million acres).

With a combination of funding, the Forest accomplished approximately 119 acres of precommercial thinning; 242 acres of survival release; 119 acres of release for growth in plantations and young natural stands, and 213 acres of first and third year plantation survival and growth examinations.

In FY07, the Forest Vegetation Management Program coordinated with the Forest Fuels and Wildlife Programs to develop integrated treatments to increase our project efficiency and provide for multiple objective accomplishments on treated acres wherever possible. Every acre of commercial thinning treatment offered in FY07 also accomplished integrated fuels treatment acres for the Forest Fuels Program.

Table 5 displays the total green and salvage timber volume offered in FY 07, relative to timber volume targets. A delay in finishing the NEPA process for the Little Doe / Low Gulch project (11,974 CCF of volume on the Mad River District) resulted in the Forest missing their FY07

volume award target by 9,421 CCF. This missed volume was added to the FY08 award target for the Forest and is planned for award in FY08.

Table 5. Volume of Timber Awarded

Year	Total Volume In Cubic Feet (CCF)	Green Volume (CCF)	Salvage Volume (CCF)
Target Volume FY 2007	23,600	20,030	3,570
Awarded Volume FY 2007	13,579	10,529	3,050

Special Forest Products

Goals

(LRMP IV – 125)
Provide a wide-range of opportunities for collection of Special Forest Products (SFP). Manage plant material collected to ensure sustainability and the conservation of plant diversity. Maintain awareness of the cultural values placed upon certain plant species and the activity of collecting. Educate collectors and the general public about the ecology of the plants collected and harvesting techniques that may reduce impacts to the resource. Monitor collection activities to improve our knowledge base regarding tolerance of certain species to collection. Encourage commercial production (such as mushroom farming) through rural development programs.

Monitoring

The Forest issued 2,447 permits for firewood, Christmas tree, boughs, greenery, mushrooms and other special forest products in FY2007.

Pest Management

Goals

Minimize resource damage from insects, disease, plants and animals to help achieve resource objectives. Where this damage causes undesirable changes in vegetation, minimize resource damage through integrated pest management (LRMP IV – 125).

Monitoring

Each year in July or August, the Forest conducts aerial pest detection flights over the entire forest to identify new insect and disease infestations and to monitor existing infestations. The total forested area that pests are mapped on is approximately 830,000 acres.

The management of Port-Orford-cedar (POC) root disease is an emphasis area for the Pest Management Program. POC root disease can unintentionally be spread by human activities in wet areas where the disease occurs. It can be picked up on tires and shoes and transported to areas that were not previously infested. Control measures to minimize the spread of POC root disease have been developed. These control measures include seasonal road closures and barrier placement in areas where the spread of POC root disease is a threat. Monitoring has shown that

the disease has intensified and spread on existing infestation sites but no new infestations have been identified.

In addition to the base POC maintenance program on three of Ranger Districts (NRA, Orleans, and Lower Trinity), the Forest completed additional left side planning on the Elk Valley Road POC Protection project in FY2007.

The Forest also worked with UC Davis Extension and several other State and local government agencies and citizen groups to continue developing and implementing Sudden Oak Death (SOD) monitoring efforts on the Forest and monitoring and control efforts in southern Humboldt County. An additional $13,420 was added to our Cost Reimbursable Agreement with UC Davis for cooperative SOD work on the Forest and to help prevent SOD in southern Humboldt County from reaching the Forest.

Progress made in SOD related educational and monitoring activities under the Cost Reimbursable Agreement, FS Agreement No. 04-CR-11051000-038:

Education

Sudden Oak Death presentations to Gasquet Ranger District / SRNRA and Six Rivers National Forest Leadership Team

Monitoring

Surveys were conducted of over 30 campgrounds, boat-launch areas, Ranger District offices, guard stations, and trailheads on the Forest (no *P. ramorum* detected; *P. pseudosyringae* detected at Pearch Creek Campground, Orleans Ranger District).

Provided assistance to USFS Forest Health Monitoring Aerial Survey crews in ground-checking polygons of tanoak mortality on the Six Rivers NF.

Regular stream-based monitoring conducted on SRNRA (Rock Creek, Hardscrabble Creek); no *P. ramorum* detected.

These SOD activities are in addition to off-forest monitoring and management activities designed partly to help monitor and control the spread of *P. ramorum* throughout Humboldt County. Activities planned for the near future include an expanded watercourse monitoring program on the Forest and outreach to specific user groups likely to travel from infested areas of the county onto the Forest.

Geology, Soil, Watershed Management

Goals

The primary management goal is maintenance of long-term soil productivity and high water quality. Identify geologic hazards and minimize the impacts from management activities on streams and facilities. Plan and conduct all forest management activities to maintain existing water quality or, where degraded, restore water quality to meet State water quality standards for the North Coast Region (Best Management Practices). Maintain the integrity of watersheds and riparian ecosystems, including riparian zones, for the protection or enhancement of riparian-dependent resources (LRMP IV – 70).

Monitoring

Roads are the primary contributor of sediment which affects water quality. Improving watershed health involves decommissioning roads that are no longer needed and storm proofing the remaining roads.

Physical Monitoring (non riparian)

2006 Storm Analysis

Objective: Investigate the effects of the 2006 storm (primarily road damage) and determine if there are any common characteristics that suggest ways to reduce future impacts from similar storms.

Methods: Storm damaged sites were inventoried in the field. Causal mechanisms and effects to water resources were described.

Results: More than half of the damaged sites failed due to avoidable or preventable causes. Roads that were well engineered and well maintained had fewer failures and less impact to water resources than roads that were poorly built or poorly maintained.

Post-Fire Silt Fences

Objective: Quantify surface erosion rates following wildfire.

Methods: Geo-textile fabric was used to create silt-fences to trap eroding sediment. Deposited sediment was removed each spring and quantified. Three fences in the Sims Fire area have been monitored since 2004.

Results: Erosion from the Sims Fire area in FY2007 appeared to be low. Fence #1 had less than one kilogram of sediment. The other two fences had been compromised by human activity. The fire area had been planted with small trees and the scalping around the seedlings caused a lot of soil to be displaced into the fences. No measurements were taken at these two fences. All three fences were removed.

Landslide Mapping

Objective: Quantify location and size of debris landslides and determine the extent to which mass-wasting may be management related.

Methods: Landslides were mapped into GIS from sequential aerial photos dating back to 1944. Any management influences are noted.

Results: The Van Duzen watershed was mapped. Management influence, especially on Forest Service land, is quite low.

Rainfall Monitoring

Objective: Quantify rainfall amounts at various locations in the Forest, particularly areas that are remote (distant from cities, towns, or other rain gauges) and at higher elevations (most historic stations are in valley bottoms even though a clear positive relationship exists between elevation and rainfall amount).

Methods: Nine tipping-bucket, recording rain gauges were monitored throughout the Forest.

Results: With a few exceptions, rainfall data was successfully collected. Rainfall amounts were found to be higher than nearby valley bottoms. Rainfall data from individual sites will be more meaningful after a longer period of record has been established.

Physical Monitoring (Instream)

South Fork Trinity Long Term Trend Monitoring

Objective: Determine the long term trend of sediment and channel conditions in the South Fork Trinity River, particularly the degree to which the South Fork Trinity River is recovering (or not) from the effects of the 1964 flood.

Methods: Only the Salyer reach was surveyed in FY2007. Four established cross sections were reoccupied, the long profile (approximately five miles) was resurveyed and pebble counts were done at the cross sections.

Results: It appears that the South Fork Trinity River is aggrading, that is, being supplied with more sediment than is transporting. Cross sections showed a small increase in the mean bed elevation and a slight increase in the width to depth ratio. Profile data indicate a decrease in the pool:riffle ratio (longer riffles) and a decrease in the maximum pool depth (from 20 feet to 12 feet). Pebble count results were somewhat mixed, but the overall trend is toward finer bed texture with an increase in the proportion of fine sediment. Although most of these changes were small, they are all indicators of aggradation.

Best Management Practices (BMPs) – All Resources

Objective: To evaluate the implementation and effectiveness of individual BMP's to determine the success of the BMP program. BMPs are mitigations that are applied on projects to reduce the impact of activity on soil and water resources.

Methods: Each BMP has a unique field form assessing specific project activities that may impact water quality.

Results: In 2007, 38 BMPs were evaluated for implementation and effectiveness. Copies of the BMP reports are at the Supervisor's Office.

Ninety percent of all evaluations were determined to be Effective. Three percent of the evaluations were determined to be Not Effective. No impacts to water quality or beneficial uses were observed. Except for a few areas, BMP's have been fully implemented and fully successful (see following table)

Results are placed into one of four categories; implemented and effected (IE), not implemented and effective (NIE), implemented and not effective (INE) and not implemented and not effective (NINE).

Table 6. 2007 Best Management Practices effectiveness results

BMPep Form	Activity	Number Inventoried/ Number Not Implemented and/or Not Effective			
		IE	NIE	INE	NINE
E08	Road Surface, Drainage and Slope Protection	3	0	0	0
E09	Road Stream Crossings	3	0	0	0
E10	Road Decommissioning	4	0	0	0
E11	Road Sidecast Control	3	0	0	0
E13	In-Channel Construction Practices	0	0	0	0
E14	Temporary Roads	4	0	0	0
E15	Road Rip Rap Composition	0	0	0	0
E16	Water Source Development	0	0	0	1
T01	Streamside Management Zones	4	0	0	0
T02	Skid Trails	1	0	0	0
T03	Suspended Yarding	0	3	0	0
T04	Landings	4	0	0	0
T05	Timber Sale Administration	4	0	0	0
T06	Special Erosion Control and Revegetation	0	0	0	0
G24	Range Management	0	0	0	0
V28	Vegetation Manipulation	0	0	0	0
F25	Prescribed Fire	2	0	0	0
R22	Developed Recreation Sites	4	0	0	0
R30	Dispersed Recreation Sites	1	0	0	0
M26	Mining Operations	1	0	0	0
M27	Common Variety Minerals	0	0	0	0
	Total	**34**	**3**	**0**	**1**

Aquatic and Riparian Ecosystems

Goals

Provide diverse, high quality fish habitat capable of maintaining or enhancing ecologically functional populations and stocks of fish at risk. Follow direction outlined in the Aquatic Conservation Strategy (FSEIS ROD pages B-9 to B-33 except as noted otherwise), which outlines specific objectives regarding the Forest goals in the management of aquatic and riparian resources. Maintain riparian dependent resources (water, fish, wildlife, riparian-related aesthetics, and aquatic vegetation). Manage riparian areas to maintain water quality; stream temperature; stream bank stability; wildlife habitat, connectors, and corridors; and to retain sources of large woody debris for habitat structure and channel stability (LRMP IV – 106).

Physical Monitoring (Instream)

Temperature Monitoring

Temperature Monitoring

Objective: To monitor instream temperatures during summer low flows.

Methods: Electronic data recorders (hydrothermographs) are placed in the streams in early summer and recovered in the fall each year. Sites are selected by fisheries and hydrology personnel. This data allows the monitoring of water temperatures, especially as they affect fish and track long-term trends in habitat quality.

Results: The monitoring continues to show that stream temperatures are within the normal range of variability in most streams, but that some streams or tributaries have temperatures that may be too warm for summer rearing of juvenile salmonids. This information provides a basis for identifying restoration opportunities and can highlight sensitive areas where special consideration is needed during planning processes to ensure Aquatic Conservation Strategy objectives are met.

Stream Channel Inventory (SCI)

Objective: Inventory and monitor sensitive stream channels.

Methods: SCI uses a four-pass method and measures pool frequency, maximum pool depth, particle size distribution, percent pool tail fines, percent shade/sun, streambank stability, channel geometry, and large woody debris. One stream reach in Kettenpom Creek was measured in FY2007. Results from this survey can be compared to surveys done in 1998.

Results: The information collected has not yet been analyzed. Subjective observation indicates this stream developing a narrower, deeper channel and has a great deal more riparian and in-stream vegetation than previously noted.

Stream Flow Measurements

The objective of this study was to monitor summer low flows at 13 different mid-Klamath tributaries using s USGS protocol to gather this information.

Low stream flow conditions were expected to be located, analyzed and recorded for understanding baseline conditions in the lower-mid Klamath River as relates to anadromous salmonids. This information is important in the development of projects

Biological Monitoring – Fisheries

Spawning Surveys

The objective of this project is to monitor and assess the current and overall status of fall Chinook populations. Spawning surveys also help monitor the effectiveness of habitat use and conditions. Information from this monitoring can be used for future habitat improvement projects. A Region 5/Six Rivers National Forest protocol is used for spawning surveys. This consists of weekly surveys of key anadromous reaches to identify trends in spawning and success in habitat improvement. Some expected results include: population assessments and trends of fall Chinook salmon; distribution and habitat use data for management and recovery planning; watershed analysis and project specific analysis. The 361 miles of surveys could not be accomplished without the help of the following partners: Americorps, California Department of Fish and Game, Middle Klamath Watershed Council, Salmon River Restoration Council, Smith River Alliance, Karuk Tribe and Yurok Tribe.

Table 7. Fall run Chinook salmon spawning surveys from 2001 to 2007

Fall- Run Chinook Spawning Surveys		
Year	ORD Total Redds	LTRD Total Redds
2001	393	353
2002	514	455
2003	504	194
2004	133	251
2005	88	104
2006	409	101
2007	273	138

Summer Adult Salmonid Surveys

The objective of this project is to derive local estimates of summer steelhead, spring Chinook and coastal cutthroat trout populations and habitat use. Methods and techniques used in these surveys are intensive downstream "direct-observation" snorkel surveys. Participants are fully trained in free-diving and safety techniques/exercises derived by the US Forest Service Washington Office and modified by Six Rivers National Forest.

Some of the expected results from these summer surveys are population and trend monitoring, as well as identification of key holding pools for management and recovery planning.

Table 8. Summer adult salmonid surveys from 2001 to 2007

	Cutthroat less than 12"	Cutthroat greater than 12"	Spring Chinook	Steelhead	Half-Pounders
Smith River					
2001	329	235	2	1	1
2002	330	283	14	4	2
2003	238	198	14	1	8
2004	335	196	14	14	0
2005	326	268	5	15	23
2006	642	567	11	25	17
2007	489	199	3	9	0
Klamath Basin					
2001	n/a	n/a	10	1153	753
2002	n/a	n/a	58	1728	993
2003	n/a	n/a	111	913	375
2004	n/a	n/a	15	587	456
2005	n/a	n/a	8	295	257
2006	n/a	n/a	0	12	5
2007	n/a	n/a	14	187	270

South Fork Smith Tributary Level II Habitat Inventory

The objectives of stream surveys are: 1) inventory stream habitat conditions and quality for threatened, endangered and sensitive (TES) fish and aquatic species, and 2) derive local

estimates of summer steelhead, spring Chinook and coastal cutthroat trout populations and habitat use through "direct observation" snorkel surveys. Fish survey information provides baseline fisheries data for use in all project design on the SRNRA

Results from these surveys include habitat monitoring, TES abundance and habitat use monitoring, as well as identification of important fish refugia for management and recovery planning. Survey information provides baseline fisheries data for use in project design on the NRA. Ten miles were surveyed in 2007.

Little Jones Cutthroat Study

The coastal cutthroat trout is a Forest Service Sensitive and Management Indicator Species. This ongoing research lead by PSW Redwood Sciences Lab is to provide basic life history information to help in the management and protection of the species and its habitat. The Smith River is unique on the Forest in having a large population of coastal cutthroat trout that provide sport fishing opportunities.

Smith River Salmon/Steelhead Creel Census

The California Department of Fish and Game is the lead agency in this project. This annual project collects information through direct interviews to determine angler/days and sport harvest levels on the Smith River. This information on over 24 miles provides baseline fisheries data for use in all project design on the SRNRA. The project is important in monitoring river use by anglers for determining impacts to aquatic resources as well as potential recreation partnerships and projects. The survey also aids in determining where use occurs, when peak angling occurs, and estimates of harvest on species.

Creel surveys provide a natural forum for one-on-one aquatic education. The benefits of this kind of dialogue directly with a user group are immeasurable, yet result in immediate benefits. In addition, both Chinook and steelhead are Forest Service sensitive species.

North Fork Eel River Monitoring

Annual survey of spawning success by visual observation of steelhead juveniles as well as age class identification for over-summering success is done to monitor for steelhead presence and livestock absence for the North Fork Eel Grazing Allotment Environmental Impact Statement.

In 2007, steelhead young of the year were not seen in the upper Salt Creek meadow area; however young were found in the lower stretches.

Klamath Tributary Coho Surveys

Direct observation using California Department of Fish and Game (CDF&G) protocol within the lower-mid Klamath Subbasin is used to estimate coho outmigrants, habitat and thermal refugia utilization, timing and distribution.

Through this information gathering, a better understanding of upstream migration patterns, timing and distribution, and thermal refugia will be gained to aid in planning and recovery.

Juvenile Salmonid Downstream Migrant Trapping

Monitoring emigrating juvenile salmonid populations, in conjunction with habitat availability data and suitability studies, permits evaluation of restoration because these efforts focus on the juvenile phase of life, which is most affected by instream conditions. This type of evaluation directly relates to ongoing restoration for tribal trust, state, and federally listed fish species. In 2007, the Forest Service monitored the health, survival, abundance, timing, and biological parameters of emigrating anadromous salmonids within Camp and Red Cap Creeks using rotary screw traps.

Freshwater Mussel Inventory

Given the increased concern for other native aquatic biota, the Forest Service is assessing what species are present in the Klamath and Salmon Rivers to determine over time, with a certain degree of confidence, what species are absent or extremely rare. Stream surveys and snorkeling are used to study the structure and habitat of the river and sampling sites in order to elucidate any associations between habitat characteristics of the river and the presence, density and diversity of mussels within the rivers. In 2007 48 miles of streams were inventoried.

Sensitive Plant Species Management

Goals

Maintain the health and well-being of threatened, endangered and sensitive species and their habitats. Take all steps necessary to ensure that actions authorized, funded, or carried out by the Forest Service are not likely to jeopardize the continued existence of these species. Manage other botanical resources on a sustainable basis (IV-83).

Population Monitoring

Lassics lupine (*Lupinus constancei*) – Forest Sensitive species

Sampling Year: 2007 (consistent long-term monitoring since 2003)

Objectives: Continue annual monitoring at permanent monitoring sites (three transects) using Level 3 monitoring (LRMP H-2) which involves demographic sampling throughout the growing season. Continue monitoring (Level 1) of the slope of Mt. Lassic based on the four permanent transects laid out this year using laser range finder techniques. Slope sampling will emphasize flowering plants.

Determine the extent of herbivory on plants and effectiveness of caging.

Access habitat conditions, including threats related to off-highway vehicle and pedestrian use in the area. (See Botanical Area discussion below).

Results

Objective 1): Lassics lupine occurrences referenced below are associated with four different sites: Red Lassic, Mount Lassic saddle, Mount Lassic forest, and Mount Lassic slope.

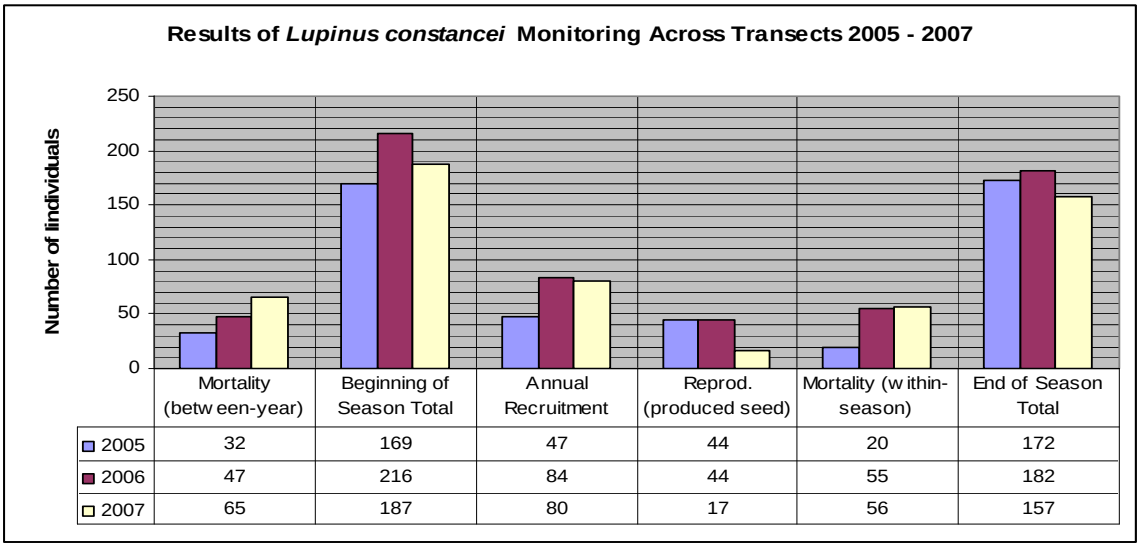
Red Lassic: Total number of plants at Red Lassics decreased slightly overall from 65 to 63 plants between last sampling date of 2006 and the end of the 2007 sampling season. Structure of the population was strongly weighted toward seedlings. Mortality was most likely due to browsing or desiccation.

Mt. Lassic saddle: Total number of plants decreased from 79 to 61 plants between the last sampling date of 2006 and the end of the 2007 sampling season. Structure of the population was strongly weighted toward non-reproductive individuals by the end of 2007. Mortality affected all life stages including a 57% decrease in reproductive individuals between 2006 (21 plants) and 2007 (9). About half of the reproductive plants were caged to prevent mortality due to small mammal herbivory; those uncaged reproductive plants were primarily lost to herbivory.

Mt Lassic forest: This transect was established in July of 2005. Total number of plants decreased from 41 at the end of the 2006 sampling season to 33 in 2007. Structure of the population was strongly weighted toward non-reproductive individuals by the end of 2007.

Mt. Lassic slope: Plants are counted using a range finder. Seedlings are not counted. Total number of plants decreased from 187 to 161 with the population structure shifting from dominance of reproductive plants to dominance of vegetation or non-reproductive plants.

The figure below provides an overall summary of population trends for Lassics lupine from 2005-2007. The end of the season total of 172 for 2005, 182 for 2006 and 157 for 2007 indicates a slight downward trend.



	Mortality (between-year)	Beginning of Season Total	Annual Recruitment	Reprod. (produced seed)	Mortality (within-season)	End of Season Total
2005	32	169	47	44	20	172
2006	47	216	84	44	55	182
2007	65	187	80	17	56	157

Figure 1. 2005 to 2007 monitoring results for Lassics lupine

Objective 2)

Red Lassic: All reproductive plants have been caged in wire exclosures to prevent herbivory. Design of new wire exclosure was changed in 2006 to include a "skirt" to dissuade burrowing. Burrowing did occur in association with exclosures without skirts.

Mt. Lassic saddle: Herbivory affected40% of the uncaged plants either in the form of browsed inflorescences or mortality of vegetative plants. No caged plants were affected. Mt Lassic forest: cumulative herbiory by mammals on lupines affected 67% of the population and reduced reproduction by 50%. Caged reproductive plants were not affected.

Objective 3): See Lassics Botanical Area discussion below.

Summary

Six years of demographic data (at Mount Lassic saddle and Red Lassic) and two years of demographic monitoring at the Lassic Forest site indicate that both population size and reproductive capacity can fluctuate across years. Presently, the precipitous declines perceived in 2002 and 2003 appear to have rebounded and maintained a relatively stable population over the years; however, this varies by site (e.g. Forest transect) and population structure (e.g. proportion in a given stage). So while currently inclining downward, the lassics lupine population appears relatively stable.

Associated studies linked to demographic monitoring include in situ seed bank studies and wildlife herbivory studies. In regards to the former, of the 435 seeds sown in the field in 2005, seedlings extant in 2007 represent 3% of the original seeds sown. Understanding seed bank dynamics is critical to understanding the population of the Lassics lupine over time.

This project is a cooperative endeavor between North Coast Chapter of the California Native Plant Society, U.S. Fish and Wildlife Service, and Six Rivers National Forest.

Tracy's sanicle (*Sanicula tracyi*)

Sampling year: 2007

Objectives: Gather semi-quantitative baseline data for developing general trend estimates (Level 1 monitoring).

Qualitatively assess habitat conditions associated with populations of Tracy's sanicle.

Results

The conservation strategy for Tracy's sanicle includes 56 populations of which 10 are designated at "managed" which means that management activities are not restricted within these areas. The majority are managed to sustain the metapopulation across the Mad River Ranger District (note: Tracy's sanicle is endemic to the Mad River Ranger District area). Population data were collected at six Tracy's sanicle sub-populations in 2007, coincident with trails designated by the Pilot Creek Trails Strategy (see below under validation monitoring) and six sub-populations for general monitoring in the central portion of its range.

Objective 1): Eleven populations sampled were extant; one had been extirpated. Population total across the extant populations equates to 7604 individuals from seedling to fruiting phenological stages (range 5 to 2379). The population size numbers are relatively balanced between the seedling and reproductive stages, 4119 seedling and 3330 flowering/fruiting.

Objective 2): Habitat assessment revealed conifer encroachment at seven of the 12 sites sampled, logging related impacts at two sites, off-highway vehicle (OHV) use at one site in the

Pilot Creek watershed, and livestock use at one site. Only one of the 12 populations sampled did not show any signs of impact.

Noxious weeds are a general concern in the areas surrounding Tracy's sanicle populations, especially those populations nested in White Oak or Black Oak vegetation series. The White oak vegetation series is often adjacent to grasslands—a habitat vulnerable to noxious weed establishment. In Pilot Creek watershed for example, the invasive weed medusahead (*Taeniatherum caputmedusae*) is present in the grasslands adjacent to populations. Given its prevalence, no treatment is recommended at this time. In addition to medusahead, tocolate (*Centaurea melitensis*) and plumeless thistle (*Carduus pycnocephalus*) occur in the grasslands nested within or adjacent to Tracy's sanicle habitat. At one particular site, OHV tracks were observed through the grassland with noxious weeds; thus serving as a vector for the introduction and spread of weeds in currently uninfested areas (see Pilot Creek Trail Strategy-validation monitoring below). Given the relatively low cover of these respective species in 2005 (estimated 1% cover in grassland), treatment was recommended; however, none was implemented. Monitoring of these species occurred in 2007 revealed an apparent increase in the abundance of both species to a few acres. Plumeless thistle was also newly noted at the Skullcamp Trail site with an estimate of 100 plants.

Summary:

Of the populations monitored in 2007, all were extant in 2007 with the exception of one population in the central portion of the range. Habitat for this population had been altered by past logging and therefore, was no longer suitable for Tracy's sanicle. The conservation strategy will be edited to reflect this change in the population status.

General population trends cannot be determined for either the Pilot Creek watershed populations or those in the middle of the range due to inconsistent sampling over the years in Pilot Creek (e.g. sampling after juveniles had desiccated in Pilot Creek) and lack of adequate baseline for populations in the central portion of its range. In 2008 and 2009, attempts will be made to sample populations in June when juveniles and adults can be counted, and to sample populations in the southern portion of the range.

From a habitat perspective, conifer encroachment has been identified across a majority of the populations monitored in 2007. Without treatment, continued encroachment will ultimately result in growth of the conifers to the exclusion of the oak woodland community and its associating species that may include Tracy's sanicle. Managing the habitat will depend on a mix of appropriate funds sought to accomplish the planning and NEPA and outside funds for implementation and monitoring.

Serpentine Endemics: Opposite-leaved lewisia (*Lewisia oppositifolia*), Waldo buckwheat (*Eriogonum pendulum*), Serpentine catch-fly (*Silene serpentinicola*), and Howell's jewelflower (*Streptanthus howellii*)

Sampling year: 2005-2007

Objective: To assess the current status of four serpentine species endemic to the Josephine ophiolite of northwest California. (Note: the assessment including sampling/synthesis of data from populations in southwest Oregon, however, those results will not be discussed below).

Results

A Conservation Assessment was written for the four serpentine endemics to synthesize known information about the species biology, distribution, threats, management and conservation. All of these species occur on the Smith SRNRA with about half of the populations occurring within the North Fork Smith Botanical Area. The Conservation Assessment involved synthesis of any available monitoring data. One of the results is that while monitoring has occurred in the past three years, there are portions of the population that have not been monitored since the 1980s.

The table below presents by species, the number of populations considered extant, estimated population size, and the confidence of those figures as a proportion (by percentage) of the populations monitored in the last three years.

Table 9. Number of populations considered extant

Species	# of populations in CA-USFS	Population size	% of populations visited in the last 3 years
Opposite-leaved lewisia	121,2	5410	92%
Waldo buckwheat	182	5883	78%
Serpentine catch-fly	18	21,9293	100%
Howell's jewelflower	122	2352	92%

- *Directed surveys in 2005 failed to relocate 11 of the 23 historic occurrences. This could be due in part to lack of precise location information, poor mapping (e.g. taken from old 15' quad maps).*
- *The standard definition applied to population follows that of Nature Serve 2004= populations are those that are separated from one another by 1Km. Within a population there may be various sites. In the case of opposite-leaved lewisia, the 12 populations contain 48 discrete sites occupied by the species. In the case of Waldo buckwheat, the 18 populations contain 53 discrete sites; for Howell's jewelflower- 88 sites; for serpentine catch-fly-*
- *Count represents ramets, (shoots), not necessarily individual plants*

Summary:

With the exception of Waldo buckwheat, the confidence of the population numbers and size estimates is sound. The inability to relocate historic opposite-leaved lewisia populations (11) is inconclusive in that it is uncertain if the results are a factor of poor location information or a change in habitat conditions.

Threats identified for the continued health of populations include encroachment or competition from vegetation for the catch-fly, lewisia and buckwheat, herbivory of seeds and thus loss of reproductive capacity for the jewelflower, OHV cross-country travel and small population sizes for lewisia.

Populations of buckwheat that have not been visited in the last three years should be prioritized for monitoring in 2008/2009. A monitoring schedule for select populations potentially affected by encroachment will aid in the understanding of the rate at which encroachment is occurring which may in turn trigger future management action. Herbivory and small population sizes may warrant a more intense level of monitoring for lewisia and jewelflower to substantiate the potential threats.

Effects Monitoring

Opposite-leaved lewisia (*Lewisia oppositifolia*)

Sampling year: 2007

Objectives: To gather baseline information to evaluate the effects of prescribed burning on *L. oppositifolia* in Jeffrey pine/Idahoe Fescue grasslands of Coon Mountain. To gather baseline for potential long-term population monitoring.

Results

Objectives 1 and 2: In June, 2005, we established permanent monitoring plots for *L. oppositifolia* and collected baseline data for long-term and/or post-fire monitoring effects on *L. oppositifolia.* A sub-set of the plots was established in areas where fire is to be excluded, thus serving as a control. Two additional transects with plots were added in 2007. Burning is expected to occur in FY 2008 in association with the Coon Mountain project.

While baseline population monitoring is used to meet both Objectives 1 and 2, Objective 1 cannot be met until the project is implemented. Post-burn monitoring would occur in FY 09 if burning occurs in FY 08. In 2007, four transects were re-sampled and two additional transects were installed and sampled. Number of individuals per plot along six transects were tallied by phenology class and frequency (a measure of abundance) was collected within the plots for associating species.

The four plots resampled showed an increase in total numbers from 454 to 676 with an average number of plants per plot (per/m2) increased from 27 plants to 36 plants. Frequency measurements for associating species will be most meaningful sampling after the burn, therefore analysis of these data were not conducted at this time.

Summary:

From a population (specifically a sub-population) perspective, short-term trends show an increase in the population size at Coon Mountain. Variables of weather (amount and timing of rain events) influence annual variations. Monitoring will occur in 2008 to provide a third year of baseline prior to prescribed burning.

Validation Monitoring

Tracy's sanicle (*Sanicula tracyi*) - Forest Sensitive species/Pilot Creek Trail System

Sampling year: 2007

Objective: Assess impacts of non-compliance (cross-country travel) by off-highway vehicles (OHVs) users relative to Tracy's sanicle populations aligning the Pilot Creek OHV trails.

Results

Six populations were visited. OHV cross-country travel was recorded in association with one of the Tracy's sanicle populations. For all other populations associated with the trail system, no

direct impacts of non-compliance were observed at the sub-populations sampled. Indirectly, cross-country OHV use has been noted in the grasslands occupied by plumeless thistle or tocolate, two noxious weeds.

Medusahead (*Taeniatherum caputmedusae*) is present in the grasslands adjacent to the sub-populations. In addition to medusahead, tocolate (*Centaurea melitensis*) and plumeless thistle (*Carduus pycnocephalus*) occur in the grasslands nested within or adjacent to two of the Tracy's sanicle populations. Monitoring of noxious weeds in 2007 revealed an apparent increase from 2005 results in the abundance of both weed species from a small area to a few acres.

Summary: At the sites sample, there was one population affected by OHV cross-country travel. Indirectly, vehicles coming into contact with noxious weeds by driving cross-country or off-trail serve as a vector for weed spread and a threat to Tracy's sanicle and plant communities in Pilot Creek in general.

Given the prevalence of medusahead, no treatment is recommended. Measures to mitigate cross-country travel into the Tracy's sanicle site will be recommended in 2008/2009. Measures to dissuade cross-country travel at noxious weed areas will be attempted in 2008/2009 as well as treatment (multiple treatments) of localized plumeless thistle and tocolate sites.

Special Interest Areas

Goal

Manage to maintain ecological processes and the unique feature for which the area was designated (IV-50).

Objective:

Does our management ensure the conservation of diverse plant communities and associated rare plant species in the areas? (LRMP H-7)

Does public use compromise the integrity of the areas' natural features? (LRMP H-7)

Lassics Botanical Area/Lassics Wilderness

Results:

Objective 1: Level 3 monitoring occurred for Lassics lupine (see above).

Objective 2: With the designation of the west half of the Lassics as wilderness, an increase in pedestrian travel was noted in association with one of the Lassic lupine monitoring sites.

Summary: Wilderness designation and the distribution of this information provided new challenges for conserving Lassics lupine. The incidences of visitors walking through the Lassics saddle increased. While the sign directing pedestrian travel to the west flank of Mt. Lassic is still intact, a need was identified in 2006 that two additional trail signs be installed, 1) directing visitors up to the peak at Mt. Lassic along the western slope and 2) directing visitors beyond the saddle where Lassics lupine occurs. Boulder placement, signage, as well as education have reduced the incidence of OHV cross-country travel.

North Fork Smith Botanical Area

Results:

Objective 2: One sub-population of McDonald's rock-cress was monitored by Forest botany staff to ascertain impacts by cross-country OHV use. Impacts were not noted.

Summary: Boulders placed to dissuade OHV cross-country use will be established in 2008.

Invasive Species Management

Goal

Sites treated to eradicate invasive exotic plant species shall receive follow-up monitoring. (LRMP IV-130, 20-20)

Objective: To reduce the incidence of invasive or noxious weed re-establishment via seed or resprouting by monitoring sites and retreating as necessary (LRMP IV-130).

Results: Treatment or management emphasis on the Forest generally focuses upon small satellite occurrences or leading edges (i.e. the edge of a new species moving onto the Forest) regardless of the species. The species, its distribution on the landscape and the size of the occurrence are all factors that play into whether monitoring and re-treatment are prioritized.

Table below summarizes results in 2007.

Table 10. Noxious Weed Stats for the Forest (2007)

Number of sites documented on Forest	725 (06' figures of 921inadvertently included duplicates)
Priority species= those which exist as small, isolated, satellite occurrences or as leading edges	Diffuse/spotted & meadow knapweed, scotch/french & spanish broom, yellow starthistle, pampas grass, dyer's woad, dalmation toadflax
Number of priority sites for treatment	110
# of priority sites monitored or retreated in 2007	99
# of priority sites actually retreated in 2007	52
# of priority sites not retreated in 2007 (likely due to size of occurrence/time limitation)	27
# of priority sites not found (= progressing toward eradication or eradicated) in 2007[1]	41
% of priority sites not found in 2007= eradicated	31%

[1] *A proportion of these sites have indicated negative finds over consecutive years*.

In 2007, 101 acres of target noxious weeds were treated by Forest botany staff and partners; the acreage arrayed across 52 sites of which 70% were less than 0.1 of an acre.

Summary: Early detection, treatment, monitoring and repeated re-treatment (e.g. over 3 years) has proven effective in eradicating small (< 0.1 acres) and isolated occurrences of noxious weeds. This approach has likely prevented noxious weeds in upper watershed positions or outlier locations from spreading into wildlands.

It is also important to note that strategic inventories (versus inventories incidental to project work) have not occurred on the Forest, with particular attention to the Lower Trinity and Mad River Ranger Districts. The number of records in our database, therefore, does not reflect the full distribution of noxious weeds across the Forest.

Furthermore, on the aforementioned districts, a number of priority sites have not ever been monitored since first detected and others have not been consecutively treated. More than a year lapse in between treatment years can result in a noted setback as plants left after treatment will produce seed and subsequently, new plants germinate that further increase the available seed for germination.

Wildlife Resource Management

Goals

Maintain or improve populations of endangered, threatened, and sensitive species by providing suitable habitats that are capable of meeting species requirements.

Marbled Murrelet (*Brachyramphus marmoratus*)

Status: Threatened

In 2007, no surveys to protocol were completed for marbled murrelets.

Bald Eagle (*Haliaeetus leucocephalus*)

Status: Threatened

In 2007, four bald eagle territories were monitored. Territories were visited in early spring to determine whether the territory is occupied. Once occupancy is established, an additional visit is completed in mid summer to determine how many young are nearing fledging age. Table 11 displays the results of bald eagle territory monitoring on each District.

Table 11. Bald eagle territories monitored in 2007

Territories by District	2007 Bald Eagle Monitoring Occupied?	# Young?	Notes
Mad River (Ruth Lake Historic Site)	No- Historic nest tree died in 2004	No	There was a pair of eagles near the historic nest site, but a new nest tree was not found.
Mad River (Ruth Lake	Yes – This is probably a new	Unknown	There was a pair of eagles on the NW end of Ruth Lake all season. Nesting was suspected,

Territories by District	2007 Bald Eagle Monitoring Occupied?	# Young?	Notes
New Site) (2005)	territory but breeding is unconfirmed.		but no nest was found. This site was occupied for the first time in 2005. Further investigation planned for 2007.
Lower Trinity (Todd Ranch)	Yes	Unknown	Non reproductive pair. Adults seen initially, follow up surveys resulted in no detections.
Orleans (Wakaar)	Yes	2 Young	19June07 adults feeding young.
Orleans (Soldier Creek)	Not surveyed	Unknown	
Annual Totals	4 territories occupied	2 young detected	

Northern Spotted Owl (*Strix occidentalis caurina*)

Status: Threatened

The Forest monitored several Northern Spotted Owl Activity Centers (AC's) in 2007 to determine whether the sites were active and if they successfully fledged young. Survey efforts included protocol surveys and status visits of known activity centers. The table summarizes the results of the monitoring.

Table 12. Northern spotted owl activity centers (ACs) monitored in 2007

Ranger District	# AC's surveyed	Results
Gasquet	15 call points	Big Flat Project had 10,000 acres surveyed with 3 detections (not associated with known ACs).
Mad River	6	Project surveys within Little Doe / Low Gulch
Orleans	8	Surveys to protocol resulted in responses at 3 known AC (52/HU075, 81/HU027, 90/HU109) and 3 moved AC (81A, 81B, 52A).

The Willow Creek Demography Study Area (WCSA) has been monitored annually since 1985. This study area occurs on the Lower Trinity Ranger District. The results of the monitoring that occurred in 2007 are documented in annual reports entitled Population Ecology of the Northern Spotted Owl in Northwestern California, on file in the Supervisors Office.

Peregrine Falcon (*Falco peregrinus anatum*)

Status: Forest Service Sensitive Species

The Forest monitored five peregrine falcon territories in 2007 to determine whether the sites were active and if they successfully fledged young. Surveys were completed to protocol. The table below summarizes the results of the monitoring.

Table 13. Peregrine falcon territories monitored in 2007

Ranger District	Nest Code & Site Name	Occupied?	# Young?	Notes
Mad River	N10021 - Mad River Rock	Yes – Active Pair	Unknown (1-2)	
Mad River	N10065 - Hetton Rock	Yes – Active Pair	Unknown (1-2)	
Lower Trinity	N10025 - Castle Rock	Yes – Active Pair	2-3 young fledged	
Lower Trinity	N10096 - Hawkins Bar	Not Surveyed		This site has been inactive for several years.
Orleans (Aikens)	N10029B – Bluff Crk Alt 2. (Aikens Crk)	Yes – Active Pair	2 young fledged	
Orleans (Somes Bar)		Yes – Active Pair	2 young fledged	
Totals		5 Active Pairs	~ 4 fledglings	

Northern Goshawk (*Accipiter gentilis*)

Status: Forest Service Sensitive Species

In 2007, the Forest did not have any management activities within suitable or occupied northern goshawk habitat so no surveys were conducted for this species.

Osprey (*Pandion haliaetus*)

Status: California Species of Special Concern

Ospreys typically nest in large snags along the banks of rivers and lakes. There are two existing osprey nests adjacent to the Highway 299 Road Repair Project on the Lower Trinity Ranger District. Seasonal restrictions are imposed on noise disturbing activities within ¼ mile of the nests to minimize disturbance during the breeding season. Wildlife Biologists monitor the nests during the breeding season to determine if the sites are active. The table below summarizes the results of the monitoring.

Table 14. Osprey nests monitored in 2007

District	Nest Site	Occupied?	# Young?
Orleans	Nest #1 Hwy 96 – Aiken's Camp Grnd ((Sec 30 SE)	Yes	+1
Lower Trinity	Nest #1 Hwy 299 - Boise Crk CampGrnd (Sec 31)	Yes	2
Lower Trinity	Nest #2 Hwy 299 – Rest Area (Sec 19)	Yes	2

Bats

Yuma Myotis bats are known to nest and roost on the SRNRA. There is an abandoned guard station building that is used annually by *Yuma Myotis* bats as a maternity colony. The building is in disrepair and is falling apart. It is scheduled to be demolished to meet public safety concerns. In its current condition, the building is not likely to remain a suitable maternity colony for much longer. The District Wildlife Biologist constructed six alternative nest/roost site structures adjacent to the existing building in hopes the bats will colonize them prior to the demolition activities. The new structures will provide suitable habitat for approximately 1,200 bats. The Biologist monitored the existing structure and the new alternative bat roosts throughout the 2007 season. About fifty bats colonized the new structures but a majority of the bats in the colony (approximately 600) used the historic roost site in the old structure.

Social and Economic Environment

Native American Trust Responsibility

Goals

Emphasize increasing understanding, communications, and partnerships with federally recognized Tribal governments. Improve relationships between the Forest Service and Indian people. Facilitate access and use of National Forest System lands by Indian people.

Monitoring and Accomplishments

The purpose of the monitoring is to determine if communications are occurring that result in facilitating access and use of National Forest System lands by Indian people.

There are 12 Federally Recognized Tribal governments within the area of influence of the Forest. They are the Hupa, Yurok, Karuk, Elk Valley Rancheria, Smith River Rancheria, Big Lagoon Rancheria, Resighini Rancheria, Trinidad Rancheria, Blue Lake Rancheria, Table Bluff Reservation – Wiyot Tribe, Bear River Band of Rohnerville Rancheria, and Round Valley Indian Tribes. The Forest has established government-to-government consultation protocol Memorandums of Understanding (MOU) with 10 of the 12 tribal governments. Formal consultation takes place at project planning to include tribal concerns, issues, and interests in project development. Additionally, the Forest works with the Tolowa Nation and the Tsnungwe Tribal Councils, two tribes not Federally Recognized, and numerous Indian organizations. Table 15 summarizes the number of consultation and the value of partnerships.

Table 15. Number of consultations and partnerships with Tribes

Year	# Consultations	# Partnerships	Value of Partnerships
2007	204	14	$975,828

**Note: Not all partnerships are associated with dollars.*

Some examples of the results of consultations include:

An agreement with the Hoopa Tribe to implement the Tribal Forest Protection Act proposal accepted by the Regional Forester in 2005. The NEPA work for the Mill Creek Roadside Fuels Reduction Project was completed this FY and the Tribe will complete the work in FY 08.

Entered into a unique MOU with the Karuk Tribe to have their Natural Resource Staff Director participate as an Interdisciplinary Team member for the Orleans Community Fuels Reduction and Forest Health (OCFR) project due to the need to protect and enhance the Panamnik Cultural District. The District is determined eligible to the National Register of Historic Places and has contemporary uses and values associated with it.

The Forest was successful in renewing a special use permit with the Karuk Tribe. This permit covers 26.5 acres and assists in protecting and preserving a traditional religious ceremonial site.

Working with Indian basketweavers approximately seven acres of beargrass were identified and burned on the Orleans and Lower Trinity Ranger Districts.

Worked with the Yurok Tribe regarding their unique request to support their desire to put Forest Service Routes on the Indian Reservation Roads (IRR) inventory system with the BIA. This would allow the Tribe to obtain a higher percentage of road dollars and create potential partnership opportunities in the future regarding these roads. The Forest supported this effort that resulted in 83 roads/spurs being added to the IRR. These roads provide access to or from the Reservation or to cultural sites or resources.

The number of consultations demonstrates a lot of formal interaction is occurring both at the staff level and at the leadership level and this communication is resulting in partnerships, policy change, and work completed on the ground that is supportive of tribal values, interests and culture. This level of communication facilitates the Forest meeting Forest Service's trust responsibilities to tribal governments and the overall goal of providing access and use of National Forest System lands for Indian people. This data indicates the Forest is trending towards meeting its LRMP goals for tribal relations.