

SIX RIVERS NATIONAL FOREST

LAND AND RESOURCE MANAGEMENT PLAN

MONITORING AND ACCOMPLISHMENTS REPORT

FISCAL YEAR 2009



OPPOSITE-LEAVED LEWISIA (*Lewisia oppositifolia*)

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INTRODUCTION

The purpose of the Six Rivers National Forest fiscal year (FY) 2009 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 FY2009 that occurred between October 1, 2008 and September 30, 2009.

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 2005.

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 2009. The majority of these burns occurred within the Wildland Urban Interface (WUI), where smoke impacts to humans would have had a higher chance of occurring.

Table 1. Number of Prescribed Fires and Acres Burned

FY2009	WUI	Non-WUI	Total
Number of prescribed fires	17	9	26
Acres	438	264	702

According to the NCUAQMD, no smoke complaints were registered for SRF prescribed burns during FY2009. Siskiyou County AQMD also did not register any Forest Service related complaints in FY2009. No other observable undesirable smoke impacts requiring mitigations of prescribed burns occurred.

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 WFHF or “core” fuel treatment accomplishments for 2009. These fuel treatment acres are split by WUI acres vs. non-WUI acres, with 98% of our core fuel treatments being accomplished in the WUI. The majority of these acres are connected with thinning and handpiling contracts for our “integrated” WUI projects – Big Flat and Orleans Community Fuel Reduction. One burning project (LT – 1 acre) was focused on beargrass burning to stimulate basketweaving materials.

Table 2. Hazardous Fuel Reduction from WFHF Funding

FY2009	WFHF Acres
WUI	5,122 (98%)
Non-WUI	95 (2%)
Total	5,217

Table 3 shows the distribution by type of fuel treatment for all reported fuel treatments including other funding sources - timber thinning, RAC projects, late fire season cleanup efforts for the 2008 wildfires, ARRA road clearing, and wildfires for resource benefit (for more information on the Backbone Fire see the Fire Management Section). Including all funding sources, 64% of our non WFHF acreage was conducted in the WUI.

Table 3. Fuel Treatment Methods

Treatment Method	Acres
Rx Burn - Understory	117
Rx Burn – Pile (Hand & Machine)	584
Mechanical Treatment	8,328
Wildfire Fuels Benefit	1,783
ARRA Road Clearing	1,347
Total	12,159

BMP's were monitored for two fuel treatments, with both evaluations resulting in an “implemented and effective” determination (see page 22)

In addition, the Adaptive Management Services Enterprise Team acquired a Joint Fire Science grant to continue their R5 fuel treatment monitoring work from several years ago. During the summer of 2009 they visited previously placed plots on Mad Ridge and Salyer/Hawkins Bar to re-read 5 plots. Those data are still being analyzed, and will be included in next year’s monitoring report.

The true test of any fuel treatment is how it responds to an actual wildfire. The Mad Ridge Fuelbreak continues to show itself as an effective fuel treatment. Both in 2008 and 2009, wildfires burned into previously treated areas of the Fuelbreak. In FY2009 one lightning strike in the

Fuelbreak hit an area that had been thinned and hand piled, but not hand pile burned. Fortunately Crew 4 had put hand line in around that section of the fuelbreak just weeks before. The strike hit a gray pine; the shattered burning pieces landed in and/or near the piles which ignited quite readily. Our fire crews responded quick enough to keep the fire to less than an acre, contained either by the Crew 4 fireline, IA fireline, or an existing road. 100% of the piles were consumed. For both years the pretreatment within the Fuelbreak proved to be a definite benefit to suppression effectiveness, which thereby lessened resource damage.

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 4 shows the number and total acreage of wildfires recorded for FY2009, which was essentially an average year. The first lightning struck on June 2, resulting in only 5 fires. The larger lightning storm hit on July 1, resulting in an additional 16 fires, only one of which exceeded initial attack efforts (Backbone Fire). The Backbone Fire consumed 1,781 acres on the SRF and extended onto the Shasta-Trinity NF for a total of over 6,000 acres. On October 7, the Mill Creek #4 Fire escaped the Hoopa Reservation boundary and burned onto the Orleans Ranger District. The Mill Creek #4 Fire burned 3,689 acres with 2,421 being on the SRF.

For human-caused wildfires, miscellaneous fires accounted for the largest number of human-caused fires in FY2009 (21), with arson fire ignitions right behind with 20, the largest of which was 6.5 acres. Other human caused fires resulted from escaped debris burns, campfires, and equipment use. The trend continues with no children-caused fires recorded in FY2009.

Table 4. Number and Acres of Wildfires by Cause

FY2009	Total	Human	Lightning
# Fires	92	52	40
Acres	4,246	2,451	1,795

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 the fire suppression activities. Resource advisors and Heritage Resource Consultants were used on the Backbone Fire during suppression efforts as well as fire suppression damage repair efforts.

The Backbone Fire, which started on July 1, 2009 was within the 1999 Megram Fire footprint. Fuels within this footprint were primarily brush with scattered conifer overstory and a high volume of standing dead snags as well as large diameter down logs. Low humidities and spotting occurrence quickly turned this fire into an extended attack effort. A decision was made to assign the Atlanta National Incident Management Organization (NIMO) team to the incident as the fire had great

potential to be a long duration fire. A direct/indirect suppression strategy was employed initially and was successful. Conditions changed and suppression strategy then became a direct strategy. This was very successful and contained the fire at just over 6,000 acres. The duration of the fire and the subsequent smoke impacts were greatly reduced by selecting this strategy. The Wildland Fire Decision Support System (WFDSS) was used to aid in the decision process.

The Mill Creek #4 Fire, a human caused fire which started on the Hoopa Indian Reservation in October, rolled out over the Forest boundary on October 7 and proceeded to the canyon bottom. Once it established itself on the opposite side it made a head run up the south slope onto the Orleans Ranger District. With the forecasted wet weather and firefighter safety considerations, the fire was primarily monitored for growth and plans for indirect firelines were made should the upcoming weather not stop the fire growth. This was an effective strategy as the rains came in and retarded further fire growth. There was some damage to some plantations, but all in all, that damage was minimal considering the magnitude of acres.

Suppression Damage Repair Plans were developed for both the large fire mentioned above and implemented prior to the heavier fall rains. Forest Resource Specialists evaluated the wildfires for impacts that would require a Burned Area Response (BAER) plan to be developed and implemented. The Backbone Fire was completely within the Trinity Alps Wilderness and the Mill Creek #4 was in a remote area as well. A determination was made that no BAER work was necessary.

Our fire training program on the forest has shown increased effectiveness. We have partnered with the College of the Redwoods for fire training and with CAL FIRE for contractor fire refresher training. We have provided local training, reducing costs associated with travel expenses for non-local training.

We have also moved one of our fire engines into a cooperative arrangement at the CAL FIRE Fortuna location along with our already existing Interagency Command Center. This has proven to effectively improve our relationship with CAL FIRE.

LANDS

Goals

- Reduce land management problems and minimize conflicts between uses of National Forest System and adjacent private lands (LRMP IV – 118).
- 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 the Smith River National Recreation Area. 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 within the Smith River National Recreation Area (NRA) 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 that 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 administers 26 permits to standard, re-issues 15 to 20 permits per year and issues approximately 5 new permits per year.

From 2001 through 2009 the Forest received 30 verbal and 2 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 funding for administration of special uses had been limited which 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 has started to shorten the back log list and provide for additional processing and monitoring funding.

BOUNDARY MANAGEMENT

Monitoring

The Boundary Management Program includes survey, posting and monumenting 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 boundary a year. The Forest maintained from 3 to 6 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. In 2007 thirty eight miles of property line were maintained to standard, in 2008 thirty four miles of property line were maintained to standard and in FY2009 thirty five miles of property lines were maintained to standard by Forest Service personnel and survey contractors. The landline work done in 2008 and 2009 resulted in the discovery of five encroachments with 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 (CFR), Section 228. The Smith River 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 Notices 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 Notices of Intent (NOIs) per year. 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 (Ukonom Ranger District). In 2005 this same section 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 due to a lawsuit and again opened up the lower Salmon River to suction dredging. In 2008 mining was minimal due to several large fires that burned in the area most of the summer. In 2009 the State of California withdrew all suction dredging permits due to a need to update their environmental support document for the suction dredge permit. As a result there was minimum mineral activity on the Forest. The State's environmental support document for suction dredging is not planned for completion until fall of 2011.

Activities on the Smith River in 2008 include one suction dredge operation on the Middle Fork of the Smith River under an NOI. There was no suction dredging activity on the Forest in FY2009.

There were no NOI's or POO on Lower Trinity or Mad River Ranger Districts. There were no POO's on the Six Rivers NF in 2008 or 2009

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. In 2008 a mining waste removal action was completed for acidic waste rock at the Union Zaar mine site on the Gasquet Ranger District. Environmental clearance work was completed to closure of several additional mining adits. The completion of the closure work is dependent upon future availability of funding. No abandoned mine safety closure work was completed in FY2009 due to lack of available funding.

MINERAL MATERIALS

Monitoring

Mineral materials (sand, gravel and rock) are regulated by Title 36 of the CFR, Subpart C Section 228.40 – 228.67 and authorized by a permit. Permit conditions are monitored for compliance by a mineral administrator. The mineral materials program provides opportunities for the public to purchase sand, gravel, river rock and pit run material. 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 to the mineral material permit. The Forest does have two commercial sites that are used most 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, and
- Provide access for the physically challenged to a wide variety of Forest Service programs, services and activities (LRMP IV – 115).

Accomplishments

The Forest managed 2453.6 miles of road in FY2009 of which 2097.9 miles are open for public access with a motorized vehicle. Of the 2,097.9 miles of road open to the public, 663.6 miles are managed as roads passable to passenger cars and the remaining 1,434.3 are managed for high clearance vehicle use.

In FY2009, there were no new permanent roads constructed and 25.9 miles of system roads taken out of the system. 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 FY2009, 586.6 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 the Recreation Program

Recreation management on the Six Rivers National Forest consists of oversight and maintenance of recreation sites, Special Use Permit administration, development of partnerships, environmental education, recreation programming, and annual recreation site monitoring.

The Forest's Recreation Program focuses monitoring attention on four recreational areas/opportunities: a) rivers and water-based recreation, b) special areas (e.g., Smith River NRA, scenic byways, botanical areas), c) cultural heritage riches and legacies (e.g., 1930s Civilian Conservation Corps architecture, historic mining and logging, native American culture), and d) providing uncrowded backcountry opportunities for recreation and solitude, focusing on dispersed areas rather than Wilderness. These focus areas (i.e., Wilderness and Wild Rivers, Recreational and Scenic Rivers, Dispersed Recreation) are monitored annually and the results of these efforts are described in detail below. In addition, the Recreation Program has been active in strategic planning for Recreation Site Facility Analysis/Recreation Niche, National Visitor Use Monitoring, and Travel Management; all of which are discussed in detail below.

Recreation Site Facility Analysis and Recreation Niche

In fiscal year 2008, the Forest completed a Recreation Site Facility Analysis which allowed for the development of priorities for a five-year program of work for recreation site improvements. As part of this process, a recreation niche, identifying unique qualities of the Six Rivers National Forest, was determined (i.e., Rivers to Ridges for Fun and Renewal) (Recreation Facility Analysis, 2008).

The name says it all – Six Rivers National Forest – six major rivers intersect one million acres and flow from the coastal mountains to the ocean. Specially designated areas celebrate the uniqueness of these rivers and the botanic, geologic and wildlife diversity of the forest. Visitors escaping the misty coast find clear skies, and clean rivers & lakes with outstanding water-based opportunities. Travelways showcase dramatic scenery and provide access to solitude both in and out of wilderness. Rich cultural stories to be shared are as ancient as the rivers and flow through time to the contemporary culture of today.

This recreation niche will be used for tourism and marketing of the Six River National Forest Recreation Program as well as to focus the overall recreation program of work. More detailed information is available on the Forest website in the *Recreation Facility Analysis, 5-year Program of Work and Programmatic Results of Implementation, Six Rivers National Forest* (June 22, 2008).

National Visitor Use Monitoring

In fiscal year 2008, the Forest conducted its second round of National Visitor Use Monitoring; a key visitor surveying effort for the agency's Recreation Management Program. The results of this Nation-wide investigation, as well as specific findings for Six Rivers National Forest, were released in FY2009. The results for Six Rivers National Forest indicated moderate Forest visitation (i.e., 252,400 visitors), with 40% of visitors travelling to the Forest on day trips from the local area, and high satisfaction ($\mu = 77\%$) with the recreation experience provided (i.e., developed sites, undeveloped sites, Wilderness areas) (National Visitor Use Monitoring, 2009). Complete survey results are available at <http://www.fs.fed.us/recreation/programs/nvum/>.

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 of 1964 (LRMP IV-11).
- The goal of Wild Rivers management is to protect the free-flowing conditions and outstanding remarkable values for which the rivers are designated, and to provide for the benefit and enjoyment of present and future generations (LRMP IV- 26).

Wilderness

The Six Rivers National Forest is solely responsible for management of the North Fork and Mt. Lassic wilderness areas while management of four additional Wilderness areas (i.e., Siskiyou, Marble Mountains, Trinity Alps, Yolla-Bolly Middle Eel) is shared with three other lead Forests. Wilderness areas managed by the Six Rivers National Forest typically receive low annual visitation (i.e., 2,800 visitors) (National Visitor Use Monitoring, 2009).

Monitoring

In FY2009, annual effectiveness monitoring of the following sites occurred:

Bear Hole (Trinity Alps Wilderness): From June to October 2009, this site was inaccessible for monitoring due to summer fire conditions in the area. There are no management recommendations at this time.

Elk Valley (Siskiyou Wilderness): Monitoring conducted from June to October 2009 shows little visitor use of this site and no noticeable resource changes over the course of the monitoring period. There are no future management recommendations at this time.

Haypress Meadow (Marble Mountains Wilderness): Monitoring conducted from June to October 2009, revealed little resource changes; however, some signs of erosion due to foot traffic were evident on a section of the trail connecting the dispersed camping site and the nearby creek. This site should receive continued monitoring. Special consideration should be given for sediment run-off in the close proximity of the drainage area.

Haypress TH (Marble Mountains Wilderness): Monitoring completed from June to October 2009, revealed little resource changes. There were no observations of resource damage; therefore, no recommendations at this time.

Stanshaw Trailhead (Marble Mountains Wilderness): June to October 2009 monitoring revealed minor resource changes. Impacts include rutting caused by animal stock use, especially during periods of wet soil surrounding the hitching post area and corrals. These impacts should be closely monitored for future resource damage.

Wooley Ck Trailhead (Marble Mountains Wilderness): Monitoring completed between June and October 2009, showed very little resource changes. There were no observations of evident resource damage; therefore, no recommendations for future management are presented at this time.

Wild Rivers

No formal monitoring of Wild sections of Wild and Scenic Rivers is identified in our monitoring plan (Land and Resource Management Plan, 1995). Resource protection for Wild Rivers is sanctioned through existing legislation (i.e., Wild and Scenic Rivers Act, 1968). Rivers in the Six Rivers National Forest with "wild" river segment designations are located within Wilderness areas where additional protection for these rivers exists (i.e., Wilderness Act, 1964). Informal monitoring conducted in FY2009, revealed no deviation from management direction occurred during this time period.

Recreational and Scenic Rivers

Goal

- The goal of Recreational and Scenic Rivers management is to maintain and enhance the outstanding 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

In FY2009, annual effectiveness monitoring of the following sites was conducted with the subsequent results:

Big Rock River Access (Lower Trinity Ranger District): Monitoring conducted between June and October 2009, revealed no noticeable resource impacts. In May, 2008, the site was paved, possibly preventing erosion related resource impacts. Noteworthy events at this recreation site include the use of Big Rock River Access as a helibase for fire incidents in 2008 and 2009. This use created high amounts of vehicle and foot traffic. Additionally, this site was severely vandalized in early spring of 2009. Spray painted graffiti and ignited fireworks in bathrooms caused major damage, resulting in more than \$2,000 in repairs. Moreover, this site received greater visitation than normal during the monitoring period. The high volumes of vehicle traffic and forest visitors could eventually cause deterioration of the site facilities. Failure to take action to mitigate these potential impacts could result in further site damage. No other incidents occurred during the monitoring period. Increased law enforcement presence is recommended.

Big Bar River Access (Orleans Ranger District): The June to October 2009 monitoring period showed resource damage around the bulletin board and bathroom loop area (e.g., erosion and compaction). Potholes and trenches were observed in the road. The condition of this site has progressively worsened since the 2008 monitoring period. Failure to take management action (e.g., better drainage) to control site impacts could result in further resource damage.

Blue Hole River Access (Orleans Ranger District): Monitoring conducted from June to October 2009, showed no further development in resource damage as compared to that of 2008. Monitoring from 2008 revealed minor resource damage due to erosion and visitor use. Trail repairs are recommended or resource damage will likely continue to worsen. Delineation or decommission of the user-created trail and minor trail work should be implemented to improve trail drainage and erosion.

Chimney Flat Day Use (Smith River National Recreation Area): In Summer 2007, 350 feet of boulder barriers were placed to restrict vehicle access to riparian areas and the meadow. No incursion has since occurred. The site has seen little change since 2008. The area continues to recover from resource damages incurred by unauthorized vehicle access. Continue monitoring/documentation to maintain compliance with management objectives for this site.

Dolan's Bar River Access (Orleans Ranger District): Monitoring completed between June and November 2009 indicated all areas within this site have increased amounts of resource damage. Rutting from vehicles has been observed. These impacts have progressively increased while other resource damages (i.e., new vehicle tracks) have emerged during the 2009 monitoring period. Damage to this site is most likely caused by forest users coupled with bad drainage. Failure to take action could result in future site

damage. Recommendations include re-leveling dispersed camping sites, providing better drainage, and boulder placement to keep vehicles off roads and spurs.

Hawkin's Bar River Access (Lower Trinity Ranger District): Monitoring completed from June to October 2009 showed no resource changes. No management recommendations at this time.

Hippo Rock River Access (Orleans Ranger District): The June to October 2009 monitoring period revealed three user-created trails leading off the main trail and extending to the river bar. Drainage has caused minor erosion off the sides of these trails. This site should be closely monitored for further impacts leading to resource damage.

George Butler River Access (Orleans Ranger District): This site was vandalized in the 2008 season (i.e., graffiti, facility damage). During the June to October monitoring period, the site was rehabilitated and then vandalized again. In addition to litter left at the site, other resource damages include rutting in the road caused by high volumes of visitor traffic. This site should be closely monitored for further resource damage. If the condition of the site progressively worsens, administrative action may be warranted (e.g., boulder barriers).

Kimtu Beach River Access (Lower Trinity Ranger District): The June to October 2009 monitoring period revealed minor resource impacts on dispersed user-created trails from the parking area down to the river bar. Rutting, caused by erosion, was observed on these dispersed trails. Impacts have slightly worsened over the course of the 2008 to the end of the 2009 monitoring periods, most likely created by large numbers of river access users. Further site/resource damage may continue to worsen over time. Further monitoring of this site for progressive impacts should be implemented.

Pappas Flat (Smith River National Recreation Area): In Spring 2008, a barrier breach occurred, allowing for resource damage. This breach was repaired by installing 850 feet of boulder barriers. The new installation of boulder barriers appeared to be effective at excluding unauthorized vehicles from the meadows and the oak grove. Continue monitoring/documentation to maintain compliance with management objectives for site.

In 2009, two cultural events were staged by the Tolowa, both centered on native youth education.

Sandy Bar River Access (Lower Trinity Ranger District): Monitoring conducted from June to October 2009 revealed major resource impacts observed on the parking area hillside from OHV use. Major erosion due to tire tracks and drainage was noticed. Several dispersed fire rings were also observed. Two monitoring seasons (i.e., 2008 and 2009) showed similar resource damage. Off-highway vehicle use is rampant in this area and resource damage will continue to worsen if no management action is taken. Boulder placement to prevent or restrict OHV travel around problem areas is recommended. Continued site monitoring should be implemented.

SMITH RIVER NATIONAL RECREATION AREA (V-16)

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

PARTIAL RETENTION VQO (V-16)

No formal monitoring conducted. Informal monitoring revealed no deviation from management direction.

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; and
- 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

Dispersed recreation areas received the greatest amount of visitation as compared to other recreation sites (i.e., developed sites, Wilderness areas) on the Six Rivers National Forest (i.e., 203,300 visitors) (National Visitor Use Monitoring, 2009). Trail condition surveys on 20% of 400 miles of trail (80 miles/year) were conducted in FY2009. Results from the annual trail inventory indicate that emphasis for maintenance is placed on the trails most popularly used by the public and our four designated National Recreation Trails. The Trails budget, in sync with federal budgets for natural resources agencies, is in a downward trend. Completion of trail work is increasingly dependent on volunteers, grant funding, and other sources of budget supplementation. Many trails have grown-over and need reconstruction or heavy maintenance to make them usable again.

In FY2009, annual effectiveness monitoring of the following sites occurred:

Brown's Canyon Dispersed Camp (Mad River Ranger District): Monitoring of this site identified little change. Brown's Canyon Dispersed Camp is one of two designated fire safe areas on the Mad River Ranger District (i.e., when fire restrictions are in place). Use of site is low, except for an evident increase during hunting season due to the fire safe designation. Two portable toilet facilities were placed at the site thereby eliminating a previous problem with site sanitation. Continued site monitoring should be implemented.

Cold Springs Dispersed Camp (Lower Trinity Ranger District): June to October 2009 monitoring observations revealed this site received little use and no noticeable resource changes were noticed. No management recommendations at this time.

Elk Valley Dispersed Camp (Orleans Ranger District): The June to October 2009 monitoring period showed little use of this site and no noticeable resource changes. There are no management recommendations at this time.

Gray's Falls Day Use (Lower Trinity Ranger District): Monitoring completed between June and October 2009 showed several dispersed fire rings, vehicle tire tracks close to the trailhead, bathroom graffiti, and nails in trees. After dismantling fire rings and cleaning bathroom graffiti, little changes were noticed during the remainder of the monitoring period. Most impacts seemed to occur during the winter season. Restricting vehicle access or designating parking areas by placing signage and installing a gate at the road entrance are management considerations for implementation.

Groves Prairie Dispersed Camp (Lower Trinity Ranger District): Monitoring conducted from June to October 2009 revealed minor erosion on the road leading into the campground, due to poor drainage. There were no other noticeable resource changes over the course of the monitoring period. No management recommendations at this time.

Happy Camp Dispersed Camp (Lower Trinity Ranger District): The June to October 2009 monitoring period revealed noticeable resource damage similar to that identified in 2008. Specifically, a user-created road exists at this site. The road appeared to have little use over the course of the monitoring period. No management recommendations at this time.

Lassics Hunter Camp (Mad River Ranger District): Monitoring of this site identified use of an unauthorized motorized access route, which extended past the campsite and had been previously blocked by boulders. Use of site is moderate and increases during deer hunting season. Site recommendations include placing a large boulder where the breach occurred.

Louse Camp (Orleans Ranger District): The June to October 2009 monitoring period showed no noticeable resource changes. No management recommendations at this time.

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; and
- Provide planning and implementation of the California Backcountry Discovery Trail as outlined in the Memorandum of Understanding between Bureau of Land Management, Forest Service, 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. Opportunities for OHV use have been identified on the Smith River NRA as well as on the Orleans Ranger District in order to provide access for this recreational activity while simultaneously reducing the risk of spreading Port-Orford-Cedar root disease through OHV travel.

In FY2009, annual effectiveness monitoring of the following sites occurred:

Ammon Ranch/Meadow (Lower Trinity Ranger District): The June to October 2009 monitoring period showed results similar to those of 2008. Vehicle tracks were observed in the meadow during the beginning of spring and new tracks noticed during fall monitoring. The fence separating the dispersed day use area from the meadow was fixed in fiscal year 2009 and broken by fall 2009. Mud trenches and tire tracks near the fire ring area were progressively worse in the fall. A few nails were noticed in nearby trees. Piles of shotgun shells were observed near the fence several times throughout the season. This site was monitored periodically, about every two to three weeks; however, forest users were never observed. Resource damage has progressively worsened over the course of the monitoring period. Resource damages may be caused by a single group of forest users. Lack of management action could result in further site damage. Replacement of broken fence and continued monitoring is recommended.

A weekend Frisbee Golf Tournament for approximately 50 – 75 people is held at this site every year in May, under Special Use Permit (i.e., Recreation Event). This use is monitored before, during, and after the event. Site sanitation is ensured through requirements of the Special Use Permit. A portable toilet is required as a condition of the permit and the site is cleaned up upon the conclusion of the event. Photo documentation and monitoring is done by George Frey, Special Uses Permit administrator.

Horse Linto Dispersed Camp (Lower Trinity Ranger District): The June to October 2009 monitoring period revealed no noticeable changes. There are no management recommendations at this time.

Pilot Creek OHV emphasis area (Mad River Ranger District): Trail maintenance and the design features identified in the Pilot Creek Trail Strategy completed from 1999 through 2009 were found to be adequate and functioning effectively. There are no management recommendations at this time.

R5 Travel Management/OHV Route Designation Strategy

In FY2009, the Forest published the Motor Vehicle use Map (MVUM) for the Smith River NRA, in compliance with Subpart B of the Travel Management Rule. The MVUM displays the current designated system of roads and motorized trails on the NRA pursuant to 36 CFR 212.51. Under the 1990 Smith River NRA Act, motorized travel is allowed only on designated routes. The MVUM displays the current legal National Forest Transportation System open for motorized travel.

The Orleans Transportation and Road Restoration Project Environmental Analysis was completed and a decision signed on March 28, 2007. A Motorized Visitor Use Map delineating authorized travel routes within this District is available for reference.

The Lower Trinity and Mad River Motorized Travel Management Environmental Impact Statement is being developed. The completion of this document and subsequent decision are expected to be finalized in 2010.

Pilot Creek Trail Use Strategy Implementation and Monitoring

The Mad River Ranger District has implemented the first two of three phases of the Pilot Creek Watershed Trail Use Strategy (1999). The first two phases required implementation of a variety of trail design features (e.g. installation of water control features, hardening channel crossings, placement of artificial tread, tread repair, minor trail re-routes). In addition, twenty-three miles of new OHV routes were identified and designated. Future development includes five trailhead/staging areas, fourteen primitive campsites, as well as 29 total miles of OHV routes.

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

With a combination of funding, the Forest accomplished approximately 1,681 acres of forest vegetation improvement.

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 FY2009 also accomplished integrated fuels treatment acres for the Forest Fuels Program.

Table 6 displays the total green and salvage timber volume offered in FY2009, relative to timber volume targets.

Table 5. Volume of Timber Awarded

Year	Total Volume In Cubic Feet (CCF)	Green Volume (CCF)
Target Volume FY2009, initial	45,000	39,775
Awarded Volume FY2009	22,852	18,768

SPECIAL FOREST PRODUCTS

Goals

- 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 (LRMP IV – 125).

Monitoring

The Forest issued 2,600 permits for firewood, boughs, greenery, mushrooms and other special forest products in FY2009.

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. Gravel was applied to a 0.7 acre undeveloped campsite parking area near Sanger Lake to limit exposure to POC root disease. Forest and Forest Health Protection employees conducted an evaluation of the POC root disease situation at Sanger Lake on the Smith River National Recreation Area. A new POC root disease infestation along the road at the parking area at Sanger Lake was evaluated.

The Forest maintained the POC program on three of the Ranger Districts: Smith River National Recreation Area, Orleans and Lower Trinity. 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.

Surveys were conducted of over 21 campgrounds, day use areas, river access points, trails, Ranger District offices, and guard stations on the Forest (no *P. ramorum* detected; or even symptomatic, at any of the sites. The lack of symptomatic vegetation is not surprising given the dry conditions this year).

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

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.

Education

As part of an ongoing effort to educate the public about *P. ramorum*, the Forest had printed a series of documents for public distribution related to *P. ramorum* and Sudden Oak Death. These documents include (1) a homeowners' guide, (2) a firefighter safety guide, (3) a guide for the recreating public, (4) an arborists' guide, (5) a guide for landscapers, (6) a guide for plant collectors, (7) a guide for foresters, (8) a guide to symptoms of *P. ramorum* on nursery plants, and (9) a matrix summary of state and federal regulations pertaining to *P. ramorum* and the movement of forest products. Additionally, the Forest had designed and printed a new informational poster regarding Sudden Oak Death in the north coast region.

RANGE MANAGEMENT

Goals

- Manage for healthy rangeland ecosystems,
- Maintain the biologic diversity of rangeland ecosystems and protect fish and wildlife resources,
- Maintain rangeland productivity on suitable rangelands while providing forage for livestock production consistent with demand and other resource values and uses (LRMP IV-120).

Monitoring

Annual monitoring for meeting LRMP resource standards is typically performed on key areas or areas of resource concern within the grazing allotment. Resource standards that are monitored for compliance with the LRMP include stream bank stability, stubble height for herbaceous riparian vegetation, browse use within riparian areas, and residual dry matter standards for the annual grasslands or oak woodlands. This monitoring occurs toward the end of the grazing season and results are used to guide subsequent management, such as early livestock removal, an extension of the grazing season, or changes in herding, gathering, watering, or salting practices. These results are also used to make changes in the following grazing season so that LRMP standards are more likely to be met the following year.

Other monitoring that is addressed in the LRMP and detailed in the annual operating instructions (AOI) that are reviewed with permittees before each grazing season include proper placement of salt blocks, maintenance of water developments or troughs, or other elements found within the permits (such as proper brands or livestock numbers), and are not included in this summary. Table 1 below identifies the number of allotments that were monitored and the percentage of key areas that met LRMP standards for 2009. The LRMP identifies 17 allotments on the Six Rivers. With the implementation of the 2005 North Fork Eel Grazing Allotment Management FEIS and Record of Decision, one allotment was closed while two allotments had no grazing authorized under that decision. Currently, 14 allotments are active. FY2009 saw the continuation of an Environmental Impact Statement on two allotments with a decision expected in the fall of 2010.

Table 6. Number of Allotments or Units Monitored

Year	Number of Allotments or Units Monitored (multiple locations monitored for some allotments)	Percent of Key Areas Within LRMP Standards
2009	10	74%

Long-term Monitoring

The following long-term monitoring occurred within the allotments to track effectiveness in meeting LRMP standards. In 2009, there was zero allotments or units monitored for long term use. Long-term monitoring is performed for herbaceous vegetation within the allotments on a rotating schedule. Results of this data are used to refine allotment management techniques within the grassland vegetation types.

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.
- Maintain the integrity of watersheds and riparian ecosystems, including riparian zones, for the protection or enhancement of riparian-dependent resources (LRMP IV – 70).

Monitoring and Accomplishments

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. In FY2009 the Forest decommissioned 26 miles of road.

Physical Monitoring (non riparian)

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: Ten 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.

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 2009, 31 BMPs were evaluated for implementation and effectiveness. Copies of the BMP reports are at the Supervisor's Office.

Ninety four percent of all evaluations were determined to be Effective. Six 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 (Table 15).

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 7. Number of BMPs Inventoried and Number Not Implement and/or Not Effective

BMPep Form	Activity	Number Inventoried/ Number Not Implemented and/or Not Effective			
		IE	NIE	INE	NINE
E08	Road Surface, Drainage and Slope Protection	2	0	0	0
E09	Road Stream Crossings	1	0	1	0
E11	Road Sidecast Control	2	0	0	0
E13	In-Channel Construction Practices	0	0	0	0
E14	Temporary Roads	2	0	0	0
E15	Road Rip Rap Composition	0	0	0	0
E16	Water Source Development	1	0	0	0
T01	Streamside Management Zones	3	0	1	0
T02	Skid Trails	4	1	0	0
T03	Suspended Yarding	0	0	0	0
T04	Landings	2	1	0	0
T05	Timber Sale Administration	0	0	0	0
T06	Special Erosion Control and Revegetation	0	0	0	0
G24	Range Management	3	1	0	0
V28	Vegetation Manipulation	0	0	0	0
F25	Prescribed Fire	2	0	0	0
R22	Developed Recreation Sites	0	0	0	0
R30	Dispersed Recreation Sites	3	1	0	0
M26	Mining Operations	0	0	0	0
M27	Common Variety Minerals	0	0	0	0
	Total	25	4	2	0

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, 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

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. This year 30 data recorders were placed in Klamath Basin streams and two in the North Fork Eel River watershed. 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 Flow Measurements

The objective of this study was to continue 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 also important in the development of projects.

Stream Condition 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, streambank angle, channel geometry (cross-section and width to depth surveys), and large woody debris. Streams surveyed in 2009 were: Bluff Creek, Camp Creek, and Corral Creek (Pattersen Meadow). Results from these surveys can be compared to surveys done in 1997.

Results: The information collected has not yet been analyzed. Subjective observation indicates that Corral Creek continues to recover from years of cattle grazing. The stream appears narrower, deeper and has a great deal more riparian and in-stream vegetation than previously. Bluff Creek was clearly impacted from recent flooding (1996?) evidenced by rows of downed riparian trees nearly continuously along both banks. Otherwise, substrate particle size distributions and other metrics appear within the normal range. Camp Creek appeared unchanged.

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. On the Smith River, the entire length of Hurdygurdy and Coon Creeks were surveyed, and all salmon and steelhead redds were counted. 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 279 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 , Yurok Tribe.

Table 8. Fall-run Chinook Salmon Spawning Surveys from 2001 to 2009

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
2008	660	unavailable
2009	706	128

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 9. Summer Adult Salmonid Surveys from 2001 to 2009

	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

	Cutthroat less than 12"	Cutthroat greater than 12"	Spring Chinook	Steelhead	Half-Pounders
2004	335	196	14	14	0
2005	326	268	5	15	23
2006	642	567	11	25	17
2007	489	199	3	9	0
2008	784	235	2	6	0
2009	494	171	0	10	58
Klamath Basin	<i>Includes tributaries on Klamath and SRNF</i>				
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	384	330
2007	n/a	n/a	14	187	270
2008	n/a	n/a	5	200	184
2009	n/a	n/a	unavailable	154	260

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.

Klamath Tributary Coho Surveys

Direct observation using 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

The monitoring of emigrating juvenile salmonid populations in conjunction with habitat availability data and suitability studies permit 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 2009 the Forest Service continued the monitoring of the health, survival, abundance, timing, and biological parameters of emigrating anadromous salmonids within Camp and Red Cap creeks using rotary screw traps. Reports are available from the Orleans Ranger District.

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)

Effects Monitoring

Opposite-leaved lewisia (*Lewisia oppositifolia*)

Sampling year: 2008 & 2009

Objectives:

To gather baseline data on opposite-leaved lewisia in Jeffrey pine/Idahoe Fescue grasslands of Coon Mountain (2008) and to gather post-fire data on the population to ascertain short-term effects of prescribed burning (2009).



Results

In June, 2005, we established permanent monitoring plots for opposite-leaved lewisia and collected baseline data for long-term and/or post-fire monitoring effects on the species. 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 of the grassland occurred in the fall of 2008 followed by early 2009 post-fire monitoring.

The sampling scheme includes the establishment of 6-50 meter transects in which 1m² frames are subjectively located along the frame (with grids to facilitate estimation) to capture lewisia plants. Number of individuals per plot along 6 transects were tallied by phenology class and frequency (a measure of abundance) was collected within the plots for associating species. Cover values for bare ground, litter, and associating species were also estimated.

Figure 2 below does not reveal any notable change in total population size over three years. The change in population totals are as follows: 2007- 3141 plants, 2008- 3024 plants, and 2009- 2984 plants.

One objective of the 2009 monitoring was to determine the immediate effects of a prescribed burn. Of the transects, the fire only burned 2 frames along transect 2. None of the other transects burned. Possible explanations: a) not enough fuel to carry the fire, b) natural fire breaks (rock, gravelly substrate) within the occupied habitat area, c) opposite-leaved lewisia tends to occupy mesic to moist micro-sites. Where burning did occur, the plant counts went up in frame 1 from 35 individuals to 42, and down in frame 2 from 38 to 29. At transect 1, frame 1, there was change in cover values of graminoids (grass) from 45 to 28% and an increase in bare ground from 13 to 45%, however this was not consistent with the findings in frame 2 (Figure 3). No invasives were detected

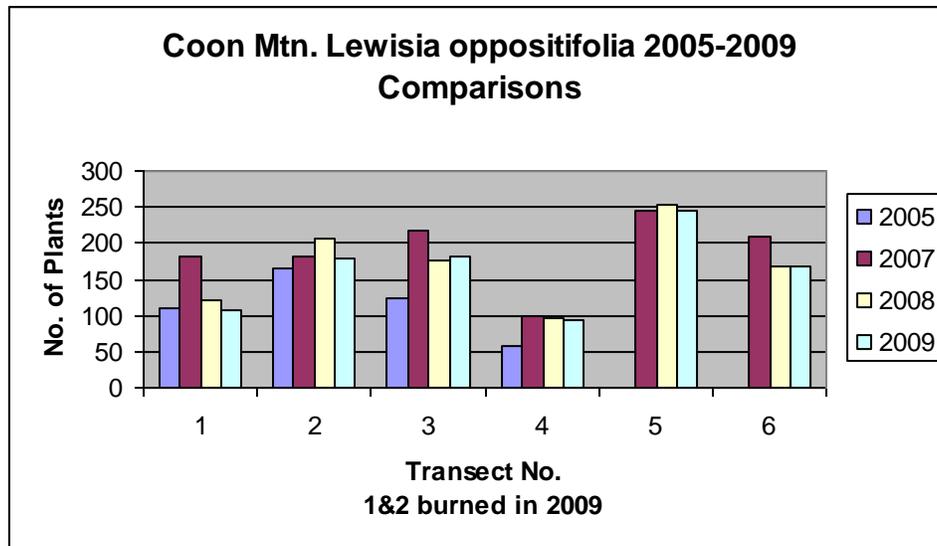


Figure 1. Number of individuals of *Lewisia oppositifolia* along transects from 2005-2009

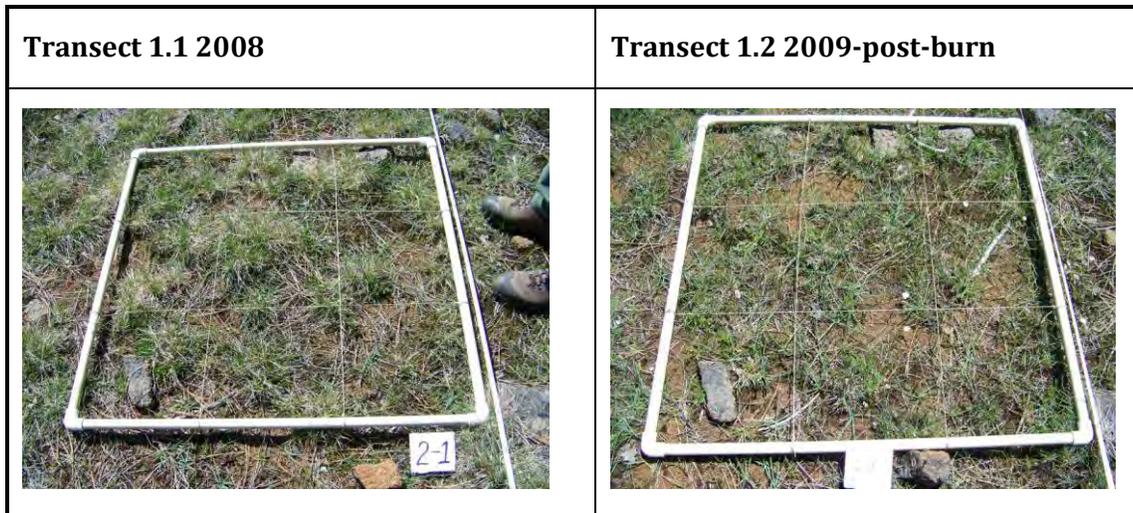


Figure 2. Comparison of transect frames pre- and post-burn.

Summary:

From a population (specifically a sub-population) perspective, since baseline data were collected, the short-term trends indicate a relatively stable situation. Post-fire burn results were limited by the fact that only small portions of two transects actually burned. In the frames of the transects, opposite-leaved lewisia was not dramatically affected. As to burning in general, perhaps the micro-habitat for the lewisia precludes low intensity fire from burning the habitat.