

FY 2003 Monitoring Report Umpqua National Forest



March 2005



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Dear Friends of the Umpqua National Forest:

Enclosed are the results of the fiscal year 2003 Umpqua National Forest monitoring activities. This report summarizes the monitoring that was completed, and what was learned as a result. Resource specialists have also formulated recommendations for changes in the monitoring program.

Please direct comments or questions on this report to: Planning and Products Staff,
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/s/ James A. Caplan

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Introduction

The Umpqua National Forest annually monitors and evaluates programs and projects to determine whether they comply with management direction in its Land and Resource Management Plan (LRMP), as revised by the Northwest Forest Plan.

Monitoring and evaluation is an ongoing process, specifically designed to insure that LRMP goals and objectives are being achieved; standards and guidelines are being properly implemented; and environmental effects are occurring as predicted. The evaluation of monitoring results allows the Forest Supervisor to initiate action to improve compliance with management direction where needed, improve cost effectiveness, and determine if any amendments to the LRMP are needed to improve resource management.

Monitoring is conducted by field reviews of projects and by inventory and survey work conducted by Forest Service resource specialists and other cooperators.

This monitoring report for Fiscal Year (FY) 2003 is divided by resource areas with general overviews of the monitoring conducted in the Executive Summary, followed by detailed resource reports, which detail the results of the monitoring along with recommendations for future years.

Executive Summary

Fire and Fuels

Fire Suppression/Pre-suppression: For FY03, the Forest was financed at 90% of the Most Efficient Level (MEL). With this type of financing, the Forest expected to see 1,912 acres burned for a cost-plus-loss of \$13 million.

The fire season on the Umpqua was normal to moderate in activity, although the potential for above normal activity was predicted. Fire season began on June 9 and ended November 2 for a total of a 142 day season. There were a total of 38 fires for 1,297 acres. The two largest fires were the Snog Fire at 85 acres and the Kelsay Complex at 1,204 acres.

Inadequate outdated NFMAS runs may lead to a shortage in staffing levels in future years. Costs exceeded projections in FY03 because of the outdated NFMAS information. The region is aware of this and the Forest is working to solve future funding issues.

Fuels: For FY03, the Forest treated 810 acres of activity fuel and 510 acres of hazardous fuels. The Forest met 98% of the resource objectives on HF burning and the results were evaluated on post monitoring burn forms attached to the District burn plans. The Snog fire was a result of a prescribed fire (BD burn) exceeding prescription parameters and the resource objectives were not met on the majority of this burn.

The ability to accomplish more fuels work on the Forest was constrained by budget caps and the inability to compete with eastside forests for funding, which have lower overall costs per acre for fuels treatments.

Fisheries

For FY03, the Forest completed 21 miles of Level II stream surveys, operated 2 smolt traps on the Tiller Ranger District (RD), and completed spawning ground surveys and redd counts on numerous streams.

The streams surveys found that many streams within the managed landscape continue to have “at risk” or “not properly functioning” attributes, including temperature, floodplain connectivity, and reduced large woody material, primarily because of past management practices. Recent instream work and other restoration efforts are improving some conditions; however, much work remains to be done to move existing conditions toward the desired condition.

The smolt trap returns on the South Umpqua River continue to show critically low levels of production for anadromous fish, despite favorable ocean conditions and high adult survival rates. Low productivity may be tied to redd scouring, a result of simplified spawning habitat in combination with altered stream flow regimes (higher, more frequent peaks). Additionally, structurally simplified rearing habitat in combination with high summer water temperatures factor in to reducing overall anadromous fish production.

Heritage

In FY03, monitoring field checks were completed at 102 pre-historic or historic sites, and on 48 project areas, totally 1,380 acres. Five sites on the Umpqua National Forest site stewardship program were maintained on a regular basis. Nine incidences of looting were documented and investigated. The Forest continues an active education program to discourage looting.

Minerals

For FY03, locatable minerals had 344 mining claims of record. The Cottage Grove RD had the majority of those claims, totaling 129. Of those, 62 claims were active; 3 claims resulted in work on Environmental Assessments (EA) to comply with the National Environmental Policy Act (NEPA), while 5 claims had Categorical Exclusions/Decision Memo's written to comply with NEPA.

For FY03, salable minerals had an active program, especially on the Tiller RD, which recorded a total of 1,210 pit run permits and 247 tons of landscape rock/building stone. North Umpqua RD sold 37 permits, while Cottage Grove RD sold 12 permits. Cottage Grove RD also had 3 active quarry mineral collection locations.

Range

The Tiller Ranger District had the only active range allotments in FY03. Approximately 47,230 acres are under allotment, with 425 head months of livestock use during the fiscal year. Three new water developments were installed. Seventeen permanent monitoring sites were maintained. The District also continued successful implementation of the existing allotments.

Recreation

In FY03, National Visitor Use Monitoring (NVUM) surveys were again conducted at the Diamond Lake Ranger District. The survey showed that there were 734,805 visits to the area, with 1,167,525 site visits. Camping, hunting, hiking/walking, fishing, relaxing, site-seeing and driving for pleasure were among the most popular activities that users engaged in while visiting the area. Monitoring of developed recreation sites, general forest areas, Special Interest Areas/Old Growth groves, dispersed roaded areas, and dispersed unroaded areas occurred throughout the year. Developed facilities were also surveyed for use.

Use at Diamond Lake RD and the North Umpqua RD decreased slightly, while use on the Cottage Grove RD and Tiller RD increased slightly. Tiller RD's demand for developed recreation currently exceeds capacity on holidays, some summer weekends, and during hunting season. Developed overnight campsites on the Cottage Grove RD all exceeded capacity at some time.

Across the Forest, dispersed unroaded recreation areas and Special Interest Areas received little or no impacts from use. Summer off-road vehicle use remained low, but is increasing slowly over time. Winter off-road vehicle use at Diamond Lake was about average, primarily due to a moderate snow pack. Brice Creek Old Growth Grove remains in fair to moderate conditions and receives steady use. The Oregon Cascades Recreation Area showed no overall increase in use for FY03.

Soil and Water

Best Management Practices (BMP) checklists were written for six out of twenty-five ground-disturbing EA's. Those BMP checklists that were written are being implemented. In FY03, thirty streams were monitored for temperature; monitoring showed that temperature has not changed. Five streams were monitored for turbidity; the monitoring results showed that turbidity levels have not changed (Appendix A). One soil productivity report was completed on the Forest.

Timber and Vegetation Management

The timber volume offered for sale from the Umpqua National Forest was low in fiscal years 2003 due mainly to the results of continued, on-going litigation. These results included changes to the Survey and Manage species list, the requirements for surveys, and the requirements on when and how to manage known sites. Also, through court decisions, existing fisheries Biological Opinions for many the Forest's timber sales remained invalid; new procedures are still being established by the regulatory agencies. The Forest also continued to work on plans to salvage timber from the 2002 fires.

Volume sold in 2003 was slightly over 10 million board feet (10.04 MMBF), primarily as a result of selling 2 commercial thinnings and numerous road-side salvage deck. The Forest continues to move toward intermediate entries in those older managed plantations that present the opportunity for commercial thinning.

About 1078 acres were planted on the Forest; seedling survival rates after year one averaged 63%, while survival after 3 years averaged 69%. The Forest accomplished 2,292 acres of pre-commercial thinning, 468 acres of pruning, and 3,830 acres of animal damage control.

Transportation

The 10-year average of traffic counts on the Umpqua National Forest showed that weekend traffic increased on the Toketee-Rigdon road by 10 to 20%. Brice Creek road showed a 6-12% increase, while Steamboat Road showed a 12-26% increase. For FY03, however, only six of the fifteen monitoring sites showed increases, while the other nine showed decreases. Average daily traffic counts at the Diamond Lake North Entrances were estimated to be 513 vehicles per day; Windigo Pass road had an average daily traffic count of 60 vehicles per day. No new permanent roads were built on the Forest. Approximately 14.5 miles of road were decommissioned across the Forest, including 9.5 miles of road in the South Umpqua Watershed, while the other 5 miles were in the Steamboat Watershed.

Visuals

The 2002 wildfires continued to visually modify portions of the viewsheds on both the Tiller RD and the North Umpqua RD into 2003. Scenic quality continues to be assessed during planning efforts across the Forest.

Wild and Scenic Rivers

In 2003, monitoring continued on the North Umpqua Wild and Scenic River through an MOU between the BLM and the Forest Service. Private boater use was up by about 4%, while commercial use also increased, by about 10%. Perception of crowding remained the same as in 2002. The Boulder Flat put-in exceeded capacity 10 days during the boating season, while the Horseshoe Bend parking area exceeded capacity 13 days during the season. Overall campground use throughout the Wild and Scenic River corridor was down slightly for the year.

Wilderness

Fire activities from the Tiller Complex continued into the fall of 2002 (the beginning of FY03). Fire recovery work was focused on rehabilitation of burned trails in the Lakes Basin. Several wilderness patrols were performed in the Rogue Umpqua Divide Wilderness during 2003; among these were eight patrols performed in 2003 by Fire Protection Officers during April through August.

Monitoring was completed early in FY 03 (October 2002) at one site each in Boulder Creek and Mt. Thielsen Wildernesses. Photo points and surveys were conducted. A similar trip was made into the Maidu Lake area in September of 2003.

On the Rogue-Umpqua Divide Wilderness, patrols filed six incident reports, primarily for failure to remove garbage and for unsafe/unattended campfires. About 25 bags of

garbage were packed out by patrol officers. Existing standards for use were met; however, party size was exceeded 3 times by oversized groups in the Rogue-Umpqua Divide.

The most frequently incurred violation was from people locating their campsite too close to water or trails. Campsites were found to be less than 200 feet away from water or trails 95% of the time. Campsite density was found to be within acceptable limits. Overall, annual visitor use in Wilderness areas on the Umpqua National Forest is estimated to be approximately 20,587 visits.

Wildlife and Threatened/Endangered Species

In FY03, the Oregon Department of Fish and Wildlife (ODFW) continued to monitor deer and elk populations, although no data was available at the time this report was written. In general, observations show that deer and elk populations are down and are continuing to go down. It appears that there may be larger population declines at higher elevations, with numerous factors contributing to the possible decline.

Monitoring for the elusive wolverine continued in FY03, contributing to the overall multi-year, multi-agency on-going effort to find this species on the Forest. Twelve flights were conducted on five separate days; six flights occurred over the Sky Lakes Wilderness on the Rogue/Siskiyou NF, while six flights occurred over the Mt. Thielsen Wilderness. There was one helicopter landing in each wilderness, well within the established criteria for conducting these flights. As with 2002, no wolverines were detected on the Forest. Continued improvement in training the observers has resulted in better accuracy in determining tracks via aerial observation.

Four bat monitoring sites exist on the Forest. All four sites have continued use as hibernacula. Cave management plans are needed to ensure that these sites continue to contribute to the successful reproduction of bats across the Forest.

Northwest pond turtles were monitored on the Diamond Lake Ranger District; monitoring confirmed a small (less than 40) but reproductively successful population. Bald eagles were also monitored on the Forest. Four known sites were monitored according to protocol; all pairs were successfully reproducing at the time of the site visits.

Peregrine falcon nests were also monitored. Eleven known sites and two suspected sites were monitored. Of the nine pairs of falcon, five had young in the nest during the site visits. Finally, primary cavity nesters and landbirds were monitored. Two Breeding Bird Survey (BBS) routes were conducted, for a total of 49 miles of monitoring. One BBS route within the boundary of the 2002 Apple Fire had five visits during FY03. Across the Forest, some populations are declining; however, retention of snags within the 2002 fires is expected to stabilize the populations of many species.

Detailed Resource Area Reports

Fire and Fuels

What monitoring did we do in 2003?

The Umpqua National Forest LRMP requires monitoring as a periodic comparison between the end results that are realized and those projected in the LRMP. In Chapter V of the LRMP (Table V-1) there are specific items that require monitoring by the Fire Management Staff area. These are:

1. ET112/NFTM 51, stand destruction caused by wildland fires. The objective of monitoring here is to determine if plan output assumptions are not valid because of catastrophic losses from wildland fires. Unit of measure used to determine this is acres and percent of area damaged.
2. PF2 BDBD FFFP 54, fuels treatment. The objective listed is to determine if fuels treatments are meeting expected resource management and protection objectives. Unit of measurement is the percent of fuel treatment acres meeting resource management and protection objectives and acres of prescribed burning.
3. PF11 FFFP 55, Fire Management. Objective is to determine protection from wildland fire for forest users, improvements, and forest resources are being met through a fire management program that is cost efficient and responsive to Land and Resource management goals and objectives. Unit of measure is acres and cost.
4. FA121/NFSW 56, Total Suspended Particulates (TSP)¹. Objective is to attain compliance with State and Federal laws, Clean Air Act, and State Implementation Plan. Unit of measure is tons of TSP.

Suppression/Presuppression – Under this category the Forest was financed at 90% of the Most Efficient (MEL) based on FY99 NFMAS (National Fire Management Analysis System) planning inflated to FY03 dollars. With this type of financing, we can expect 1,912 acres burned for a cost-plus-loss of \$13 million.

The fire season on the Umpqua was normal to moderate in activity, although the potential for above normal activity was predicted. Snowpack levels for 2003 were 132% of normal, but the previous 3 year trend was below normal. Fire season began on June 9 and ended November 2 for a total of a 142 day season. There were a total of 38 fires for 1,297 acres. The two largest fires were the Snog at 85 acres and the Kelsay Complex at 1,204 acres.

Based on the acres burned there was an actual cost plus loss of approximately \$10.8 million dollars. The actual savings based on this formula was \$1.964 million, well within monitoring item 1 and 3 above. According to Page 39 of Chapter V or the LRMP no

¹ TSP is defined as any finely divided material (solid or liquid) that is airborne with an aerodynamic diameter smaller than a few hundred micrometers.

changes in suppression strategies are needed as we did not exceed 20% acreage burned over our NFMAS level.

Fuels – During the fiscal year, the Forest treated 810 acres of activity fuel and 510 acres of hazardous fuels. The Forest met 98% of the resource objectives on HF burning and the results were evaluated on post monitoring burn forms attached to the District burn plans. The Snog Wildland fire was a result of a prescribed fire exceeding prescription parameters and the resource objectives were not met on the majority of this burn. The Snog was a BD burn. According to monitoring parameters outlined above, the Forest did not exceed the 20% threshold identified as not meeting objectives on prescribed burning.

TSP – According to the TSP production chart attached, the Umpqua NF is well below the TSP goal. In 2003 TSP amounts increased above 2002 although less acres were treated in 2003.

According to the guidelines that we adhere to for smoke management, the Forest is allotted 6,550 tons for the year; we were well below 1,000 tons. With this data, we meet the objective set in monitoring item 4 as stated above.

What did we learn in 2003?

From the 2003 season we learned:

Suppression/Presuppression - That our NFMAS run parameters for a below normal to normal year are adequate for protection. For monitoring purposes we are well within our thresholds. One item that the Forest had to deal with in 2003 was that the NFMAS costs did not keep up with actual costs on the ground. Due to changes in policy and direction, we increased our leadership and non-producer costs related to oversight of a safe and effective program.

From our NFMAS run, fire season is identified as being 130 days, from June 10 to October 15 each year. We exceeded fire season due to weather factors beyond our control by 12 days. In 2003 we relied on severity dollars and resources associated with severity starting July 20 and ending September 20. We must continue to monitor parameters outside of a normal fire season to rely on severity resources to complement our existing program.

We learned that our NFMAS run is outdated and that a more accurate budget analysis tool needs to be used. In 2005 we will begin moving forward with the FPA (Fire Program Analysis) analysis that is due to take effect in real dollars in 2007. Until then we need to keep the Region informed that our costs for 2005 and beyond are not adequate and do not represent the actual dollars needed on the ground to meet our MEL staffing levels.

Fuels – The Forest has been constrained by the budget that is allocated to the Forest in fuels management. In the Annual Fire Report, the Forest reports that over 5,000 acres of fuels treatments could be accomplished if regional allocations would allow this. Currently we are constrained by our BFES cap and our high cost per acre for treatments compared to the eastern portion of the Region. The ET needs to develop a strategy for adjusting the BFES cap and for helping the Region to understand we have reduced our

cost per acre substantially, but we don't compete with low costs on the eastside of the Region well.

TSP – The Forest continues to maintain excellent air quality standards as defined by our direction. No smoke intrusions occurred in any designated areas from the Forest burns. Prescribed fire smoke monitoring continues with audits being accomplished as outlined in our direction. Total tons and total suspended particulates are much lower than historic figures (Figure 1). This reduction has been accomplished by spring broadcast burning and leaving sufficient large woody material for long term site productivity.

Recommendations

For the upcoming fiscal year, recommendations to the ET would be:

Suppression/Presuppression – Understand and plan at the MEL level that we are directed to staff at according to the Regional Forester direction. For the next couple of years we are dealing with the NFMAS run and outputs associated with the 1999 certification. The Regional Office understands our plight with leadership and inflation costs not being adequate and has promised to assist us in meeting real costs as the Washington Office allows. Understand that the Regional Office is anticipating that we will be deficit spending in upcoming fiscal years.

The Forest also has the leeway to change the mix of resources within the NFMAS run, but we must be diligent in making sure the resources still meet the FPCC (firefighter production capability) levels identified in NFMAS that determine our MEL staffing levels.

Move ahead as needed to prepare for the upcoming FPA budget analysis process so that our funding can be more aligned with actual on the ground costs for the entire fire program. Be prepared to meet critical timelines and provide input into a well thought out organization to meet future needs of the Forest program. Proceed to develop Dispatch block cards and better meld the District lines to accomplish resource protection at a lesser C+NVC cost for protection.

Fuels – The Forest needs to continue increasing the implementation of fuels treatments to reduce the risk of wildland fires in wildland Urban Interface and high value resource areas. Treatments and costs need to remain competitive. While the Regional Office is accepting our fuels treatment costs in line with the rest of Southwest Oregon, we need to continue to demonstrate efficiency and make our case for funding that is equitable to the rest of SW Oregon. Recommend finalizing the 5-year vegetation strategy to have a balance of ecosystem scale burning program with implementation along with enough dollars in the budget to allow for planning that will produce projects with a 5 year shelf life to begin moving ahead with consistent implementation. The Forest will implement the new prescribed burn plan format this year. Districts need to increase the number of monitoring plots within prescribed burn areas to compliment the post monitoring portion of their burn plans.

TSP – The Forest will continue to monitor TSP levels. It is anticipated that if the budget allows increased treatment acres, we will remain within acceptable levels of compliance.

Overall recommendation for the entire program – The Forest should do a Forest Plan amendment to move RAWS station sites into administrative sites and a CE needs to be completed to maintain these permanent sites to standards set within RAWS station maintenance plans.

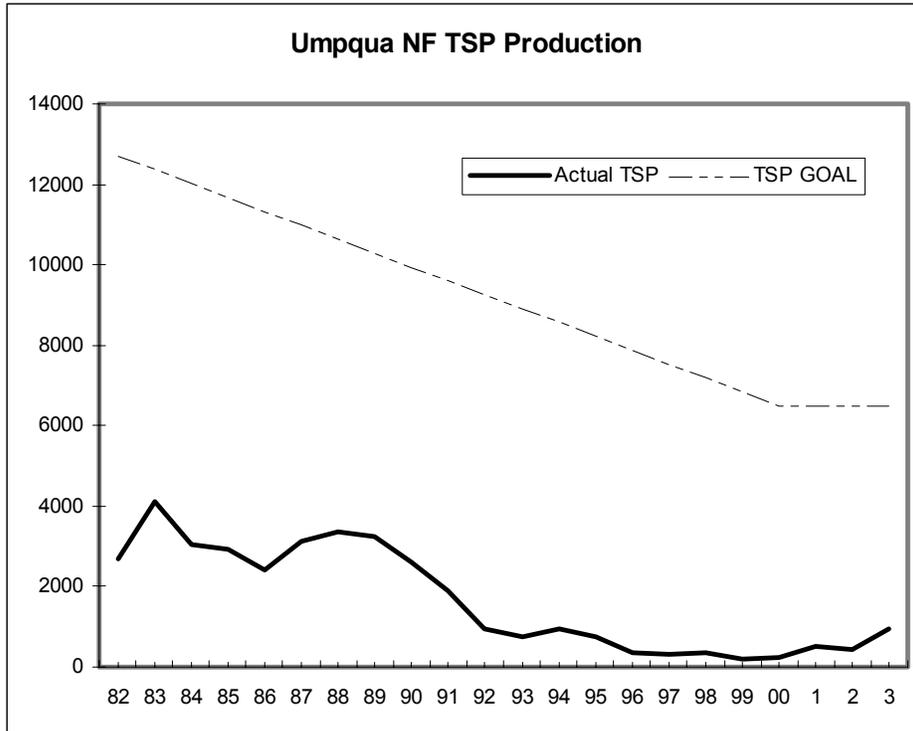


Figure 1. Total Suspended Particulate (TSP) Production Graph

Fisheries

Forest Plan Monitoring Elements:

ME-06, Channel Cumulative Effects (Level II Stream Inventory), Table V-1, Page 14; ME-11, Smolt Trapping, Table V-1, Page 16; ME-12, Pool Quality, Table V-1, Page 16; ME-13, Aquatic Macroinvertebrates, Table V-1, Page 16; ME-24, Large Woody Material, Table V-1, Page 22

Other Monitoring Elements:

Adult Salmon & Steelhead Spawning Surveys/Redd Counts

What monitoring did we do in 2003?

ME-06: Three of the four Ranger Districts conducted Level II Stream Surveys, totaling 21 miles in 2003. This represents 11% of the Forest Plan level of 176 miles annually.

ME-11: Two smolt traps (South Umpqua River & Jackson Creek) were operated in 2003, both at the Tiller Ranger District. This represents 20% of the Forest Plan level of 10 sites.

ME-12: No Pool Quality transects were inventoried in 2003. This represents 0% of the Forest Plan level of 8 transects.

ME-13: No macroinvertebrate monitoring sites were sampled or analyzed in 2003, although 15 sites were planned, funding was diverted for Fire purposes. This represents 0% of the Forest Plan level of 35 sites.

ME-24: No Large Woody Material transects were inventoried in 2003. This represents 0% of the Forest Plan level of 8 transects.

Other: Spawning Survey/Redd Counts were conducted on numerous streams on three of the four Ranger Districts for three different species:

- Tiller completed multiple surveys for coho salmon on transects in Dumont, Boulder, and Beaver Creeks. Additionally, Tiller completed several mid-summer spring Chinook holding counts in established index pools in the South Umpqua River.

- Diamond Lake completed multiple surveys for coho salmon on two stream transects in Boulder and Copeland Creeks. Additionally, Diamond Lake completed multiple surveys for steelhead in Copeland Creek.

- North Umpqua completed multiple surveys for steelhead on several transects in the Steamboat Creek watershed.

What did we learn in 2003?

The Stream Survey work was conducted to establish baseline conditions. Results from 2003 further supports previous findings that many stream segments on the Forest in “managed” landscapes currently have numerous “At Risk” or “Not Properly Functioning” attributes, including: high summer water temperatures, loss of floodplain connectivity, altered (coarsened) streambed substrate composition, simplified and widened stream channel morphology, and reduced LWD loading. These watersheds are in need of substantial protection and/or restoration in order to achieve Forest Plan Desired Conditions and contribute to the recovery of desired native TES fish and other aquatic organisms.

Results from the Smolt Trapping shows a continuing trend of critically low levels of production of several native anadromous South Umpqua River fish stocks, including: spring Chinook, coho, and searun cutthroat trout; despite recent favorable ocean conditions and resultant higher adult survival rates. This suggests that spawning and juvenile rearing habitat in many parts of the South Umpqua sub-basin remains impaired and is in need of restoration. The capture of large numbers of age 0 young-of-the-year coho, but very few mature age 1+ smolts, suggests that redd scouring, a result of simplified spawning habitat in combination with altered flow regimes (higher, more frequent peaks), is likely a serious factor limiting production. Additionally, structurally simplified rearing habitat in combination with high summer water temperatures is also likely a significant factor that reduces overall anadromous fish production.

Spawning Surveys continue to provide important information on differences and similarities in annual abundance and distribution of many of the Forest's native salmon and steelhead stocks. Changes in native-stock adult abundance, which for some stocks is substantially determined by off-forest conditions (ocean productivity) and/or activities (harvest, brood collection), in 2003 was mixed. Healthier stocks, such as North Umpqua spring Chinook and winter-run steelhead, saw generally increased numbers over the past 10-year average; while most of the more sensitive stocks, such as: searun cutthroat (Forestwide), coho (Forestwide), and South Umpqua spring Chinook, had small or no apparent increases in abundance. It is likely that natural production of the healthier stocks (both of which utilize the high quality rearing habitat afforded by the North Umpqua main-stem) was large enough to be able to take advantage of the excellent ocean conditions and reduced harvest levels over the past two years, as has been hypothesized as the reason for generally larger salmon returns (wild and hatchery) throughout the region in 2003. Conversely, low natural productivity of the depressed stocks may have precluded a noticeable increase. No trends in abundance are evident at this time.

Amendments

No amendments are recommended at this time.

Recommendations

- At a minimum, increase present aquatic monitoring efforts to include at least 15 macroinvertebrate sites (as was planned in 2003).
- Continue to make water quality and fish habitat/population monitoring the highest priority for limited NFIM funds.
- Continue to emphasize implementation of the Restoration Business plan.

Heritage Resources

What monitoring did we do in 2003?

In addition to Forest Plan monitoring requirements, the Forest meets its monitoring obligations under the Programmatic Agreement between the United States Department of Agriculture Forest Service Pacific Northwest Region (Region 6), the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Officer Regarding Cultural Resources Management in the State of Oregon by the USDA Forest Service. Monitoring is an added protection measure to prevent looting as required under the Archaeological Resource Protection Act of 1979. Law enforcement, Forest Service Heritage Program staff, and the Cow Creek Band of Umpqua Tribe of Indians continued to monitor archaeological sites considered a risk for looting. Monitoring, reporting, and assessments of impacts to archaeological resources from fire suppression activities during the 2002 wildland fires continued into 2003. In 2003, field monitoring checks were completed at 102 prehistoric and historic sites and field monitoring of 48 project areas for a total of 1,380 acres. Five archaeological sites are in the Umpqua National Forest Site Stewardship program and were monitored on a regular basis by the Cow Creek Band of Umpqua Tribe of Indians Cultural Committee.

What did we learn in 2003?

Nine incidents of archaeological looting were documented and an appropriate investigation was conducted for each incident. The increase in looting may be linked to the county's economic downturn. Public outreach and stewardship activities will be increase in an effort to decrease looting. Fourteen new archaeological and historic sites were recorded during inventory work. The archaeological resources were found in high probability areas as defined by the Forest Inventory Plan. During the 2002 wildland fires, archaeologists served as resource advisors and surveyed prior to fire suppression activities. Consultation with the State Historic Preservation Office and Tribes occurred during the emergency activity. Twelve sites were impacted by fire suppression activities. Consultation with the Tribes was completed during 2003.

Amendments

No amendments are recommended at this time.

Recommendations

Archaeologists will continue to survey in high probability areas during emergency activities. Consultation with the State Historic Preservation Office and Tribes will continue. In consultation with the tribes and State Historic Preservation Office, assessment of archaeological impacts from fire suppression activities is planned. A strategy will be developed with fire to ensure protection of archaeological and historic resources. In an effort to prevent looting, public outreach will continue. Support of active law enforcement, the Site Stewardship Program, and public awareness needs to continue. The Forest is committed to work with law enforcement and other federal agencies to complete a heritage resource protection strategy.

Locatable and Salable Minerals

Element # 57 – Administration of Locatable Minerals

Element # 58 – Management of Rock Resources

Element #59 – Availability of Rock Material

What monitoring did we do in 2003?

Information regarding locatable minerals for this report was derived from the Bureau of Land Management National Mining Claim database, from the ranger district responses to request for mining, from field inspections and observations and from common variety mineral material request collection permits. District Rock Resource Managers also provided requested data using Umpqua Rock Removal and Use Summary form. Information regarding the utilization and removal of salable mineral resources was also gathered from review of contact documents and discussions with the Forest Contracting Officer. Districts indicate that field verification of mining Plans of Operations is being conducted.

What did we learn in 2003?

Locatable Minerals (#57)

There are three hundred forty-four individual mining claims of record, as indicated on the Bureau of Land Management Records, as being within the boundaries of the Umpqua National Forest. One hundred twenty-nine of these claims were filed on the Cottage Grove Ranger District in calendar year 2003. Sixty-two of these claims are active, with notice level work or Plan of Operation level work occurring, which is down slightly from last year. During 2003 The Cottage Grove Ranger District processed three requests for operation that required an Environmental Assessment (EA). There were five approved plans of operation based upon Categorical Exclusions (CE) on the district. There are two occupancy concerns. On one, the claimant appealed the district ranger's decision regarding removal of the occupancy, while on the other the claimant is in the process of completing a Plan of Operation in which the occupancy will be addressed during 2004. The complexity and time for processing each case to approve the proposed mining activities continues to increase. As public involvement and awareness of the mining program increases, the complexity and workload continues to increase and the time that was spent responding to FOIA (Freedom of Information Act) request increases.

The locatable minerals program on the North Umpqua and Tiller Ranger Districts remains static with no new Plans of Operations being processed. North Umpqua is sampling water outflows of two mines under existing approved Plans of Operation.

Tiller Ranger District had no locatable minerals activity of the past two seasons.

Salable and Common-variety Minerals (#58 and #59)

About 80% of rock utilization (32,382 CY) during fiscal year 2003 was for use on the Forest Service. The bulk of rock resources disposed of via mineral-material sale was to the Federal Highway Administration (FHA) and PacifiCorp. Common minerals utilization remains substantially below that anticipated in the 1990 Forest LRMP. The Forest Plan FEIS projected an annual consumption of 257,000 loose cubic yards (LCY) for crushed rock aggregate over the 10-year planning period spanning 1996 through 2005. Most large-scale entries that took place at common variety minerals sources on the Forest during fiscal year 2003 were generally associated with the final road repairs under storm damage repair contracts.

The Cottage Grove Ranger District had three active Quarry Mineral Collection locations Deception Rock Quarry, Silver stairs Rock Quarry and Doris Rock Quarry. During FY 2003 the Cottage Grove Ranger District sold 12 permits (\$10.00 each) for collection from the above locations. The district had one rock source in operation under a timber sale contract. The Blodgett rock source provided the rock for the Blodgett ATV Timber Sale. The timber purchaser removed approximately 5,900 cubic-yards of rock for FS Road No. 2232 reconstruction and maintenance. After this crushing operation is complete, the Blodgett rock source will have adequate rock available for two or three more future entries.

On the North Umpqua Ranger District the number of mineral material permits issued continues to climb. The district issued 37 mineral material permits.

Tiller Ranger District’s most often request mineral material permit is for pit run rock with 1,210 being sold, in addition to the 247 tons of landscape rock/ building stones.

Table 1 displays a summary of the common variety mineral use on the Forest during FY 2003.

Table 1. Common Variety Mineral Use for FY 2003.

Mineral-material Commodity Reported	Ranger District	Free Use Permits* (tons)	Mineral-material Sale (tons)	Forest Service Use (tons)	Totals (tons)
crushed stone (road aggregate)	Cottage Grove			10,620	10,620
“	Tiller			864	864
building stone / landscape rock	North Umpqua		120		120
“	Cottage Grove		156		156
“	Tiller		55		55
“	Diamond Lake		96		96
riprap	North Umpqua			18,738	18,930
“	Tiller		~2,000	2,160	2,160
“	North Umpqua		192		
undifferentiated common borrow	Tiller		1,210		1,210
“	Diamond Lake		2,888		
sand and gravel	North Umpqua		5		5
volcanic cinders	Diamond Lake		10		10
Totals		0	6,732	32,382	39,114

*Rock resources disposed of by free-use permit, mineral-material sale, or force-account in FY03

Reported annual rock removal on the Forest between 1993 and 2003 is portrayed in Figure 2, below.

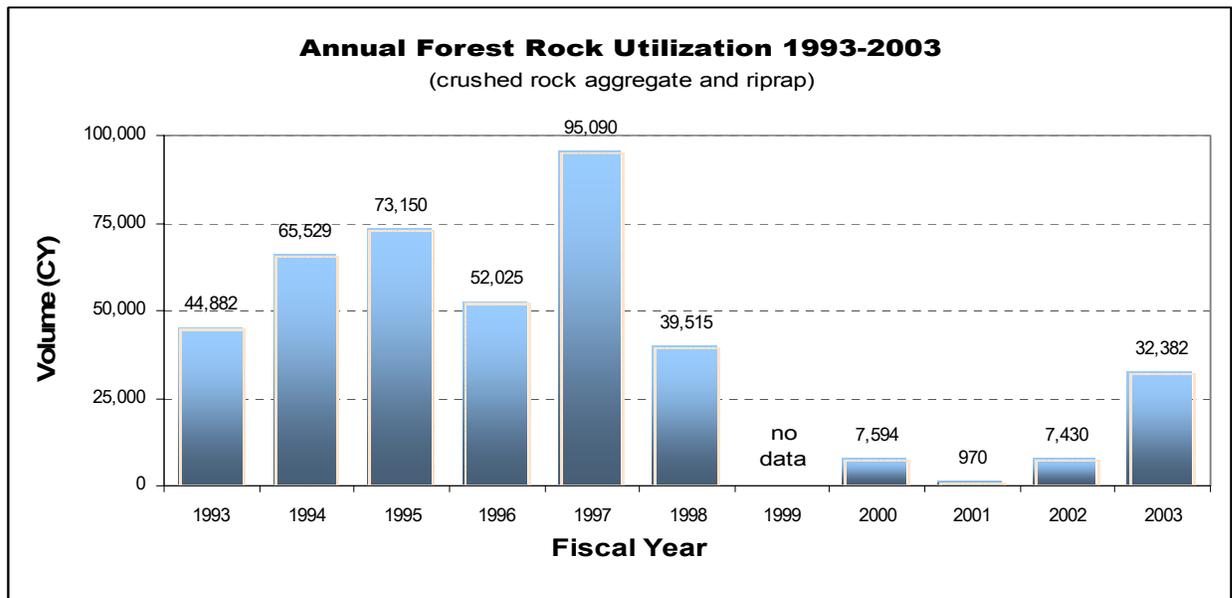


Figure 2. Annual Rock Utilization.

Amendments

No amendments are recommended at this time.

Recommendations

Locatable Minerals (#57) - Our recommendations are to continue monitoring and support for the locatable minerals program. There are some public concerns regarding occupancy (structures located on mining claims) at some mining operations on the Cottage Grove Ranger District. It is recommended that these be resolved in the near future.

Salable and Common-variety Minerals (#58 and #59) – For Element #58, it is recommended that:

1. The Forest Minerals Staff Officer clarify Forest direction regarding pit development (excavation) plans. It is also recommended that Engineering Team Leaders keep the Forest Rock Resource Manager informed well in advance of any planned projects that involve entry and removal of rock resources requiring preparation of a pit development plan.
2. Continue present monitoring

For Element #59, the following actions are recommended:

1. The current salable mineral permit fees don't appear to reflect current market values for some types of common variety minerals. It is recommended that the fee schedule for common variety minerals be reviewed and revised based to reflect current market conditions.
2. Clarify to direction to field units regarding issuance of mineral material permits and annual reporting of the specific mineral material authorized for removal. This may be accomplished by developing a small brochure with images of what these mineral material look like and what applications they are chiefly used for.
3. The Forest to identify specific material sources or locate new material sources, as needed, to meet the future anticipated needs of ODOT and the North Umpqua Hydroelectric Project.
4. Continue present monitoring.

Range, Livestock and Grazing

Resource Element

Umpqua National Forest Land and Resource Management Plan Chapter V: NFRG/DN12 (page V-20); NFRG/DN1 (V-46); NFRG/DN1 (V-48); NFRG-RBRB/DN221-DN222 (V-48); NOAA Fisheries Biological Opinions: 1997, 1999; Letters of Concurrence: 1999, 2003; Monitoring was conducted on the Tiller Ranger District.

What monitoring did we do in 2003?

The Forest livestock program is implemented primarily on the Tiller Ranger District. Approximately 47,230 acres of allotments, including the Drew Creek, Diamond Rock and Divide Allotments, as well as the Pickett Butte portion of the Summit Allotment and the Collins Ridge portion of the Acker Divide Allotment, were monitored during the 2003 grazing season. This yearly effort is conducted to assess how well permitted livestock grazing complies with the Forest Plan and Biological Opinions. The field notes and allotment monitoring reports are located at the Tiller Ranger District.

The 2003 monitoring program was sharply curtailed by budgetary reductions brought about by transfer of range funds to finance national fire suppression costs. Given this fiscal circumstance, about 75 percent of the monitoring effort was directed at Pickett Butte and Collins Ridge, where adaptive grazing management was initiated in 2003. The other three allotments have a history of successful livestock use, and were a lower priority. All key areas in each allotment were monitored, but not at the desired frequency, particularly for the first-year allotments.

What did we learn in 2003?

The Forest authorized 425 head months of livestock use. Two permittees chose to take total nonuse for personal convenience. A total of three new water developments were installed in Pickett Butte and Collins Ridge to support grazing operations in those areas. As a matter of standard practice, the Forest provided the hardware for, and the permittee contributed the labor to construct and maintain, these range improvements.

The Forest maintains 17 permanent monitoring sites in the aforementioned allotments. These sites are located along perennial and fish-bearing streams, as well as in wetlands, meadows and conifer plantations. Monitored use includes forage utilization, and impacts to vegetation structure, riparian areas and streambank morphology.

The monitoring results generally show that permittees were able to comply with the provisions of the Annual Operating Instructions (AOI). The 2003 data were consistent with the findings from previous years for the Drew Creek, Diamond Rock and Divide Allotments. These three allotments provide grazing opportunities within an environmental framework of moderate to low risks for resource impacts from grazing activities. In addition, successful compliance has been attributable to the smaller numbers of cattle placed on the range that approximately match the permittees' management capability. And, with each successive grazing season, the permittees have a better understand of what is expected of them in terms of outcomes.

The Forest is continuing to build on its record of success. In 2003, Tiller Ranger District authorized grazing at Pickett Butte and Collins Ridge based on adaptive management. This initiative was the result of collaborative efforts involving the permittee, NOAA Fisheries and Tiller Ranger District staff. The grazing strategy was developed by applying monitoring information and successful practices from the aforementioned allotments, where livestock grazing has been in compliance with the Forest Plan, as amended, as well as the Biological Opinions. First year monitoring results for Pickett Butte and Collins Ridge appear promising in terms of meeting utilization objectives

outlined in the AOI. As was the case for other allotments, adjustments in livestock management practices will be undertaken in with each iterative grazing season.

The 2003 grazing season was not without challenges. One area for improvement is the need to increase monitoring efforts by the permittees to initiate preventative measures, or to take corrective actions in a timelier manner. Secondly, more effort must be directed toward better utilizing certified conifer plantations, which comprise the transitory range. Properly utilized, these plantations can significantly relieve grazing pressure in sensitive areas. Finally, the reallocation of range management funds for fire suppression purposes greatly affected the Forest's ability to properly administer the 2003 grazing program.

The Forest emphasizes the value of engaging publics to find common ground for shared outcomes. Along this line, the Forest sponsored two workshops that enabled permittees and Tiller Ranger District resource staff to work and learn together. In one instance, the District invited the National Riparian Service Team to instruct participants on the Proper Functioning Condition methodology. The team provided guidance in reassessing two stream reaches that both parties had previously rated. The other workshop involved the use of nutritional supplements as an attractant to change utilization patterns. This low-stress approach is intended to complement active herding with the goal of obtaining more desirable cattle distribution, particularly away from riparian areas. The latter was also attended by several Rogue River Valley permittees and ranchers.

Amendments

No needs were identified in 2003.

Recommendations

- Continue to engage permittees to develop common understanding of resource problems and common solutions to reduce risks.
- Continue to use Proper Functioning Condition assessments a field forum for discussing and resolving riparian issues.
- Continue to sponsor workshops to bring applicable range management technology to local permittees.
- Encourage the use of nutritional supplements to obtain better distribution of cattle.
- Pursue additional funding for range improvements. Deferred maintenance of existing range improvements is not being adequately funded.

Recreation

Elements #25- Developed Recreation; Element #26-Dispersed Unroaded Recreation; Element #32- Oregon Cascades Recreation Area; Element #33- ORV Use; Element #35-Special Interest Area Condition

What monitoring did we do in 2003?

Element #25 - A follow-up National Visitor Use Monitoring (NVUM) survey was conducted in 2003 on the Diamond Lake District to build on the initial NVUM database and address selected management issues. Researchers from the University of Florida and Penn State conducted visitor surveys focusing on the user characteristics, beliefs and

attitudes of recreational users in the Diamond Lake recreation complex. The purpose of this investigation was to examine recreational use patterns, satisfaction levels, economic expenditures, and experiences currently occurring in the complex. This information provides baseline data and suggests management actions to address current issues identified in the study.

Elements #25, 26, 32, 33 and 35 - Additional monitoring included reviews of visitor use for developed recreation sites, general forest areas, special interest areas/old growth groves, dispersed roaded environments, and dispersed unroaded recreation areas. Facility condition surveys were conducted at approximately 20% of the developed recreation sites on the Forest, as well as some condition surveys being conducted at dispersed unroaded recreation areas and special interest areas.

What did we learn in 2003?

Overall use on the Forest in developed areas (Element #25) varied from district to district. While all use was within the monitoring threshold, use at Diamond Lake and North Umpqua Districts decreased slightly while use on other districts increased slightly.

Tiller Ranger District's demand for developed recreation (Element #25) sites exceeds capacity on holiday weekends, summer weekends, and at some sites during hunting season. Use in Industrial Camps is primarily recreation use. Dumont Creek Campground was closed until vegetation treatment can be accomplished to mitigate tree hazards associated with laminated root rot. Selected riparian areas along the South Umpqua Corridor continue to have visitor use impacts.

Developed overnight campsites (Element #25), Rujada, Cedar Creek, Hobo, Lund, and Mineral, all exceed capacity on summer holidays and most all mid-late summer weekends on the Cottage Grove District. Brice Creek dispersed sites are also occupied to capacity during the same time period.

Condition surveys conducted in dispersed unroaded recreation areas (Element #26) and special interest areas (Element #35) showed use levels low with no evidence of unacceptable impact.

Summer off-road vehicle use (Element #33) remained low Forest-wide, although use and demand for off-road vehicle use areas are increasing slowly as indicated in the number of users on public and surrounding private lands.

Winter off-road vehicle use (Element #33) at Diamond Lake was average due to moderate snow pack. Dispersed recreation use has increased in areas along the lakeshore adjacent to Lemolo Lake resulting in loss of vegetation and compaction.

The Brice Creek Old Growth Grove (Element #35) is in fair to good condition. The area is readily accessible with frequent interactions among users common. There are also several small, isolated flat areas that provide trail users a more remote and "off the beaten path" opportunity.

The Oregon Cascades Recreation Area shows no increase in overall use (Element # 32).

Additional value-added visitor use surveys were conducted in the Diamond Lake Area in 2003. Following are the key results of the summer 2003 Diamond Lake Recreation Use Study (Element #25):

Demographics:

The majority of respondents were Caucasian with a slight increase of non-Caucasian (from 4% to 8%) from the 2001 to 2003 surveys.

- About half the respondents are between the ages of 31 and 50 (mean of 44).
- Fairly equal proportion of male to female respondents.

Trip Visitation Patterns:

- Loyal users, with a high “repeat customer” proportion, with a primary destination of Diamond Lake.
- Over half of respondents visited Diamond Lake with family members.

Activity Participation and Primary Activities:

- Primary recreation activity was camping in developed sites (29%) and general relaxing, hanging out (28%).
- Recreation activities most participated in by Diamond lake respondents were general relaxing/hanging out (85%), and viewing natural features such as scenery and wildlife (82%).

Customer Satisfaction:

- Overall satisfaction was high with a mean score of 8.26 on a 10-point scale.
- Recreation setting and responsiveness of staff were the most highly rated domains of customer service.
- Over 90% of the visitors felt they could recreate without feeling conflict or crowding from others.

Feelings about Fisheries and Water Quality:

- Respondents showed a higher degree of support for improving water quality than for improving recreational fishing opportunities.

Importance and Attainment of Visitor Experience:

- Visitors were primarily interested in passive recreation reasons, than pursuing physical exercise or engaging in social activities
- An experience that focused on being outdoors in a natural setting was attained.
- Younger respondents (especially 30 and younger) tended to seek a more socially oriented experience, as indicated by the importance and attainment of visiting the lake to be with their friends.
- In addition, there was an increase in first-time visitors and more visitors on multi-destination trips in 2003 over 2001.

Recreation Use

Overall developed recreation use was monitored through the fee collection system and observations of Forest Recreation personnel. Visitor use estimates are available at the national, regional, and forest level. Only forest level data is provided in Table 2.

Table 2. Umpqua NF Annual Recreation Use Estimate, FY 2003.

Umpqua National Forest Visits		Umpqua NF Site Visits	
Visits	Error Rate	Visits	Error Rate
734,805	21.6 %	1,167,525	21.3 %

The average person visits 1.6 sites during their Forest visit. The FY 2001 recreation use surveys found the popular recreation activities on the Forest were: camping, hunting, hiking/walking, fishing, relaxing, site seeing, and driving for pleasure (Table 3).

Table 3. Expected Activity Participation and Primary Activity, FY 2003.

Activity	Percent participation*	Percent of Participant's primary activity
Camping in developed sites (family or group)	24.5	16.1
Primitive camping	4.8	1.1
Backpacking, camping in unroaded areas	2.3	0.1
Staying at Resorts, and cabins	16.1	4.9
Day gatherings in developed sites (family or group)	13.9	1.7
Viewing wildlife and natural features – site seeing,	38.1	7.0
Visiting historic and prehistoric sites/area	1.8	0.1
Other- relaxing, hanging out, escaping heat, etc,	38.4	9.4
Fishing- all types	16.8	9.3
Hunting- all types	16.0	11.6
Off-highway vehicle travel (ATV, etc)	2.4	0.9

Activity	Percent participation*	Percent of Participant's primary activity
Driving for pleasure on roads	27.5	10.4
Winter sports: Snowmobile travel, skiing, etc.	4.4	3.4
Motorized water travel (boats, water skiing, etc)	4.1	0.5
Hiking or walking	38.5	12.3
Horseback riding	1.8	0.2
Bicycling, including mountain bikes	10.6	6.1
Non-motorized water travel (canoe, rafting, etc.)	1.4	0.4
Other non-motorized activities	14.0	4.5
Total	100+	100

* Exceeds 100%, as visitors will participate in multiple activities on same visit to the Forest.

Amendments

Review and update the Diamond Lake Recreation Composite Plan after the Diamond Lake Water Quality FEIS is completed. Review and update the Diamond Lake District Winter Sports Plan. During this process, it will be determined if any changes in LRMP management direction is needed.

Recommendations

Generally continue with present management direction and monitoring efforts for all recreation elements.

Element # 25:

- Complete the recreation plan for the South Umpqua Corridor. There are opportunities to (1) Convert Industrial Camps to Forest Camps, (2) plan for additional developed recreation sites in the South Umpqua Corridor, and (3) evaluate impacts of group camping in the Umpqua Falls area.
- Continue planning for Rujada site expansion and provide improvements at Fee Demonstration sites. Continue further improvements to Lund and Hobo to mitigate resource damage and unplanned development.
- Continue with collection of statistically accurate recreation use data in the Diamond Lake area. Finalize the Diamond Lake Water Quality Draft Environmental Impact Statement.

Element # 33:

- Increase public information about appropriate off-road vehicle use through brochures and increased visibility on the Forest website.

Elements # 26 and 35:

- Provide weekend and occasional weekday patrols during the summer season in dispersed roaded and unroaded environments on the Cottage Grove and Tiller Districts. Address public sanitation and vegetation impacts from visitor use in undeveloped areas. “Day-use only” areas may need to be designated. Some areas may need traffic control, road surfacing or other improvements to maintain and protect water quality.

Soil and Water

Forest Plan Monitoring Elements:

Element FW121/NFSW 1 – Soil Productivity; Element FW121/NFSW 3 – Soil and Water Best Management Practices; Element FW121/NFSW 9 – Stream Temperature; Element FW121/NFSW 10 – Stream Sediment, Turbidity and Streamflow

What monitoring did we do in 2003?

The Umpqua National Forest LRMP requires monitoring the use of Best Management Practices (BMP’s) to protect Water Quality, stream temperature, turbidity and streamflow, and soil productivity. The data for stream temperature and turbidity are attached to this summary.

Best Management Practices checklists were written for 6 projects out of 25 ground-disturbing activities with signed environmental analyses (EA’s) in 2003. Checklists were completed to document that BMP’s were used on 3 activities in 2003. Cottage Grove, Diamond Lake and North Umpqua Ranger Districts wrote and completed some checklists. Tiller RD did not write checklists in 2003, but began writing checklists for fire salvage sales in 2004 (to be reported in next year’s monitoring report).

The Forest Plan requires 29 streams to have temperature measured each summer on the Forest. Thirty streams were monitored in 2003.

Five (5) streams are instrumented to show if turbidity changes for winter flows of the same size. Turbidity and flow was measured on Layng, Steamboat, Canton, Boulder and the North Umpqua Wild and Scenic River. The Forest Plan requires four monitoring sites. Layng Creek turbidity analysis for 2003 was not available for this report, and will be included in the 2004 monitoring report.

The Forest Plan requires Soil Productivity reports. One report was completed in 2003. The Diamond Lake Soil Scientist determined that fuel reduction broadcast burning on Yogi Timber Sale Unit #6 met the Forest Plan Standard for maintaining effective ground cover and moisture holding capacity of the soil.

What did we learn in 2003?

BMP's are being implemented, according to checklists written for some timber sales and other activities that operated in 2003. Checklists were written for about 24% of the projects we planned in that year. Clearly, funding and staffing do not permit writing checklists, and using them to check water quality practices (log suspension or waterbars, for example) on all Districts and all projects. The completed checklists show that most practices are implemented on the projects that were monitored. This monitoring element does not evaluate the effectiveness of the practices.

Stream temperature did not change for most streams, although 2003 maximum summer water temperatures were 1-2 degrees warmer than 2002 during the warmest week. No large streams met the Clean Water Act and Oregon standard of 64 degrees Fahrenheit in summer 2003 (Appendix A). Cedar Creek, a 78-degree stream with no shading riparian trees in the 1970's, is 10-degrees Fahrenheit cooler today. Boulder Creek (a designated Wilderness) is warmer than some streams and cooler than others of its size. Trees have never been logged along Boulder Creek. A large fire in 1996 burned some riparian trees, but did not noticeably increase the stream's temperature.

Turbidity is not changing on the streams monitored, when compared to previous years during comparable winter flows. Long term monitoring of Steamboat, Canton, and Layng Creeks show that high turbidity in the 1970's has decreased in these streams. In some years, turbidity has increased, and then returned to relatively constant levels. Turbidity monitoring of the North Umpqua Wild and Scenic River began in 1993, and no large changes have occurred. Summer turbidity of the North Umpqua is important to anglers there. A year-round monitor run by the US Geological Survey shows that the normal summer turbidity is 1-3 turbidity units. Boulder Creek (a designated Wilderness) turbidity and streamflow have been measured since 1993. Trees have never been logged along Boulder Creek. A large fire in 1996 burned some riparian trees, but turbidity is similar before and after the fire.

Soil productivity monitoring shows that timber harvest practices maintain soil characteristics and organic matter, or recommend ways to improve them. This is some of the only monitoring done to show the immediate effectiveness of BMP's. One report was completed for 2001 and 2002.

Amendments

This element should be amended in the Umpqua LRMP Monitoring Plan. Districts clearly cannot write BMP Checklists on every ground-disturbing activity. One solution is to amend the plan to require 10% of activities (minimum of one per Ranger District) have BMP monitoring. The monitoring could be randomly assigned by the Forest Supervisor, and done on a standardized form for that activity (timber sale, grazing allotment, road construction).

Forest Plan monitoring elements for landslides, public water supplies, cumulative effects analysis, and riparian shade measurements are no longer necessary and should be removed by amending the Plan. The Northwest Forest Plan limited harvest and other activities so that the thresholds in these elements are never reached.

Monitoring Elements FW121/NFSW 2, 5, 7, and 8 addressing the Forest Sediment Yield Model, Public Water Supplies, Cumulative Watershed Effects and Riparian Vegetation effects should be eliminated. These elements should be eliminated from the Forest Monitoring Plan. Similar recommendations were made in 2002. The plan has not been amended.

A Monitoring Plan Element should be added to monitor algae blooms and risks to public health on Diamond Lake, where blooms have occurred since 2001, and keep a watch on Lake Creek, the North Umpqua River, and Lemolo, Toketee, and Hemlock Reservoirs where people swim for recreation.

Recommendations

The Umpqua National Land and Resource Management Plan was written in 1990, when many more activities were planned and implemented on the Forest. The Monitoring Plan requires Best Management Practice Checklists on every ground-disturbing activity. Ranger Districts should continue monitoring, but since every activity doesn't have a BMP checklist, the Umpqua National Forest is vulnerable to Clean Water Act lawsuits (and does not comply with the Memorandum of Understanding with Oregon DEQ). The 2001-2002 monitoring report recommended that District Rangers should write and complete one BMP Checklist on Cottage Grove and Tiller Ranger Districts in the following fiscal year, with a goal of monitoring all ground-disturbing activities by FY2005. Cottage Grove District wrote one checklist in 2003, and Tiller District wrote two checklists in 2004. Until the Forest Plan is amended, all projects with ground-disturbing activities should have BMP checklists.

Almost all named streams on the Umpqua National Forest are warmer than the Oregon water temperature standard. These "water quality limited streams" need water quality management plans, and the Forest is working with Oregon DEQ to show that the Northwest Forest Plan protects water quality on federal lands. The data from water temperature monitoring allows the Forest to prove that, and should be continued.

Turbidity and flow monitoring provides a long-term assurance that land management activities are not reducing the visibility in the clear waters of the North Umpqua Wild and Scenic River, that drinking water from Layng Creek is not more turbid for the City of Cottage Grove, and that Steamboat, Canton and Boulder Creeks provide suitable fish habitat. Turbidity monitoring in cooperation with the City of Cottage Grove has been important to answer questions about logging in the municipal watershed. The monitoring should continue.

Soil Productivity monitoring reports help soil scientists evaluate harvest practices and share those results with the staff that plan ground-disturbing activities. The monitoring should continue.

In July and August 2001-2003, Diamond Lake experienced a five-fold increase in density of algae in Diamond Lake, and a dominance of *Anabaena flos-aquae* species. This alga can, and did, produce a neurotoxin that required closing Diamond Lake to water activities. Hydrologists have monitored Diamond Lake since 1992 (this is not an element in the Forest Monitoring Plan) but samples are only taken monthly. This monitoring needs to be a part of the Forest Monitoring Plan, and early warning measurement of algae

has begun to avoid public health risks in summer 2002. Research is needed to recommend how to manage the lake, and to provide effective monitoring of toxic conditions. Monitoring of proposed Water Quality Restoration of Diamond Lake should include monitoring (1) flow of Lake Creek, (2) water quality of Diamond Lake, groundwater around the lake, and Lake Creek, and (3) aquatic life in Diamond Lake, Lake Creek and downstream. In the short term, we should instrument the USGS gage station on Lake Creek to measure continuous water quality, under baseline conditions before any lake treatment.

Finally, aquatic monitoring of water quality and fish has the best record of Forest conditions, dating from adoption of the Umpqua and Northwest Forest Plans in 1990 and 1994. Some monitoring has been done for 30 years, and all is important to meet NEPA, the Clean Water Act, NFMA, and monitoring commitments to our partners. The Forest should give water quality and fish habitat and population monitoring the highest priority for funding with the limited NFIM (Inventory and Monitoring) funds available.

Timber and Vegetation Management

What monitoring did we do in 2003?

The Umpqua National Forest Land and Resource Management Plan requires monitoring of annual volume offered, stocking of plantations, accomplishment of reforestation, growth of managed stands, and other silvicultural activities.

What did we learn in 2003?

The timber volume offered for sale from the Umpqua National Forest was low in fiscal years 2003 due mainly to the results of litigation. These results included changes to the Survey and Manage species list, the requirements for surveys, and the requirements on when and how to manage known sites. Also, through court decisions, existing fisheries Biological Opinions for many of our timber sales remained invalid; new procedures are still being established by the regulatory agencies.

Volume sold in 2003 was slightly over 10 million board feet (10.04 MMBF), primarily as a result of selling 2 commercial thinnings and numerous road-side salvage deck. The Forest continues to move toward intermediate entries in those older managed plantations that present the opportunity for commercial thinning.

Accomplishments in silvicultural activities are shown in Table 4.

Table 4. Silvicultural activities in 2003.

Activity	FY 03
Planting with appropriated money	790 ac.
Planting with KV money	288 ac.
Animal damage control with appropriated money	1560 ac.
Animal damage control with KV money	2270 ac.
Precommercial thinning with appropriated money	730 ac.
Precommercial thinning with KV money	386 ac.

Precommercial thinning as a PayCo project	1176 ac.
Pruning with appropriated money	0 ac.
Pruning with KV money	0 ac.
Pruning with Forest Health funds	468 ac.

Planting with appropriated fund money was limited this year to 72% of the planned accomplishment due to a shortage of seedlings caused by extensive freeze damage at JH Stone Nursery. Reforestation with appropriated money focused on planting burned areas on the Tiller and North Umpqua Ranger Districts. Precommercial thinning needs on the Forest continue to be only partially funded. There are opportunities to cover some of the need through cooperative funds such as payment to counties (PayCo). In FY 03 the Forest was successful in securing these funds to augment thinning attainment. The Forest will continue to propose these projects for PayCo funding. Forest Health Protection funds are another source of funding work to restore or sustain the health of five-needle pine (Western White Pine and Sugar Pine) and other conifers; the use of these funds will be expanded in the future.

Plantation survival is how reforestation success is measured. Listed below are the results reported for fiscal year 2003 (Table 5).

Table 5. Plantation Survival in 2003.

Results	FY 03
Seedling survival after first growing season	63%
Seedling survival after third growing season (planted 3 years prior to survey year shown)	69%
% of acres that were satisfactorily reforested at initial planting, based on 3 rd year survey results	81%

As planting of recently harvested acres continues to be a smaller portion of the overall reforestation program (KV planting in 02 was 388 acres versus 288 acres in 03), a larger percentage of planting will be in older, replant, or wildfire affected harvest units. Attaining a high percentage of survival becomes a greater challenge.

Various factors contribute to seedling mortality: weather, site condition, tree handling, planting quality, animal damage, stock quality. Of the various factors, the long-term drought over the last five years continues to have a significant affect on survival rates.

Amendments

No amendments are recommended at this time.

Recommendations

- Complete an inventory, through the stand examination process, of the best commercial thinning opportunities in managed stands.
- Continue to closely monitor stock quality and response in the field and work with the Nursery to improve quality where possible.

- Maximize use of contributed funds to accomplish vegetation establishment and improvement work; i.e. PayCo and Forest Health Protection.

Transportation System

Elements #27- Transportation System Management; Element #28 – Road Construction; Element #29 – Road Closures

What monitoring did we do in 2003?

Element # 27 - Traffic volume on ten high-use sites and three project specific sites was collected. Traffic data was compiled for 2002 and 2003 for comparison with previous years. Road system mileage by maintenance and use category was reviewed.

Elements # 28 and 29 - Road construction, decommissioning and reconstruction records were also checked, including whether there was new road construction in key watersheds.

What did we learn in 2003?

Element # 27 - The sites showing definite increases in weekend traffic from 1994 to 2003 are:

Toketee-Rigdon Road	between 10% and 20% (10 year average)
Brice Creek	between 6% and 12% (10 year average)
Steamboat	between 12% and 26% (10 year average)

No sites monitored have shown a decrease. The weekend Average Daily Traffic (ADT) on the recorded sites ranged from 513 vehicles per day during summer weekends at the Diamond Lake North Entrance Road down to 60 vehicles per day on Windigo Pass Road.

The following changes from 2001 in miles in each maintenance level² were made as a result of the completion of the Forest scale Road Analysis in FY 2003: Level 3-5 mileage reduced by 2; Level 2 mileage reduced by 397; Level 1 mileage increased by 325

The following is a summary of the miles of road by maintenance level in 2003 by ranger district.

District	1	2	3	4	5	Total Miles
Cottage Grove	111.3	296.2	48.6	20.0		476.1
Tiller	395.8	1,184.3	154.6	37.8		1,772.4
Diamond Lake	444.5	557.2	89.3	32.9	37.6	1,161.6
North Umpqua	273.1	1,003.6	73.0	39.3	0.9	1,389.9
Total:	1,224.7	3,041.3	365.5	129.9	38.5	4,800.0

Subject to Highway Safety Act: 533.9 (11.1%)
Not Subject to Highway Safety Act: 4,266.1 (88.9%)

Table 6 is a summary of traffic volume information at key monitoring sites on the Forest.

² The Forest has five operational maintenance levels. Level 1 roads are blocked or closed to all vehicles; Level 2 roads are maintained only for passage of high-clearance vehicles at low speeds; Level 3 roads are passable for public passenger cars at slow speeds, usually between 15 and 25 miles per hour; Level 4 roads are passable for public passenger cars at moderate speeds of 20 to 35 miles per hour; Level 5 roads are passable for high volumes of traffic at moderate or higher speeds.

Table 6. Traffic Volume Information at Key Sites.

UNF Traffic Volumes (ADT)								
Location		1994	1995	1996	1997	2002	2003	
Site 1	Weekdays				320	346	327	
Diamond Lake	Weekends	550	580	450	505	550	513	
North Entrance	All	433	444	397	373	406	379	
Site 2	Weekdays				56	65	57	
Little River	Weekends	104	100	88	95	101	106	
Road	All	92	99	82	68	75	71	
Site 4	Weekdays				311	Counter	Not	
Diamond Lake	Weekends	450	510	570	416	Not	Working	
South Entrance	All	441	433	475	329	Working		
Site 6	Weekdays					Counter	47	
D.L. Loop	Weekends					Not	49	
Southwest corner	All					Working	47	
Site 9	Weekdays					71	64	
D. L. Loop	Weekends					114	91	
S. of Thielsen View	All					84	72	
Site 20	Weekdays				106	111	110	
Toketee- Rigdon	Weekends	138	150	160	152	172	166	
Road	All	127	142	148	120	129	126	
Site 22	Weekdays					60	56	
Thorne Prairie	Weekends					95	91	
	All					70	66	
Site 26	Weekdays				23	23	43	
Windigo	Weekends	40	22	27	39	32	60	
Pass	All	32	13	27	27	25	48	
Site 30	Weekdays				Not	86	99	
Lemolo Lake	Weekends	148	125	110	Available	133	144	
Road	All	120	127	117		99	112	
Site 32	Weekdays				13	24	72	
Copeland Creek	Weekends	18	28	35	19	29	62	
Road	All	37	25	32	15	25	69	
Site 40	Weekdays				41	40	56	
Layng Creek	Weekends	64	74	70	55	62	68	
Road	All	66	66	67	45	46	59	
Site 50	Weekdays				77	75	91	
Brice Creek	Weekends	165	138	105	147	157	175	
Road	All	85	95	79	95	98	114	
Site 60	Weekdays				Not	201	143	
South Umpqua	Weekends	215	202	150	Available	246	201	
Road	All	205	172	168		213	159	
Site 70	Weekdays			Failed	Failed	Loop	Loop	
Jackson Creek	Weekends	55	45			Needs	Needs	
Road	All	40	74			Replacing	Replacing	
Site 100	Weekdays				52	65	109	
Steamboat Road	Weekends	85	80	75	102	96	106	
	All	107	86	89	66	73	109	

Elements # 28 and 29 - No new permanent National Forest system roads were constructed during FY 2003. During FY 2003 14.5 miles of road were decommissioned, with 9.5 miles decommissioned in the South Umpqua River Watershed and 5.0 miles decommissioned in the Steamboat Creek Watershed; both are designated as key watersheds under the Northwest Forest Plan.

Amendments

Amend forest plan standards and guidelines for traffic management and Appendix F to reflect the current budget trends, NW Forest Plan Revision, and Forest scale Roads Analysis results.

Recommendations

- Element #27 -Produce an annual traffic monitoring report.
- Element # 28 and 29 - Continue monitoring road construction, decommissioning and reconstruction.

Visual Resources

Element # 30- Visual Resource Condition

What monitoring did we do in 2003?

Some general monitoring of viewshed condition occurred along State Highway 138, Little River Road and the South Umpqua Falls Road No. 27. The wildfires of 2002 continue to visually modify portions of the viewsheds, but the overall condition of the viewsheds remains intact. Effects of fire and mitigation measures were discussed at length in October 2003 during a fieldtrip of landscape architects from across the region. No specific timber sales were monitored post-sale as no sales were cut in scenic areas.

What did we learn in 2003?

Scenic quality is being addressed to some extent in environmental and watershed assessments. Staff trained in scenery management is at a low level. Information on scenic quality levels is included in the Geographical Information System and not all employees are familiar with application techniques of the standards and guidelines. The Forest landscape architect is being increasingly involved in timber sale planning and other resource planning projects such as rock quarry development and wildlife habitat improvements.

An Aesthetics Management Plan was developed for the North Umpqua Hydropower project that includes extensive aesthetic monitoring elements for that area.

Amendments

No amendments are recommended at this time.

Recommendations

Continue to expand monitoring to include all areas of landscape management including management activities in all resource areas such as roads, fire, special-uses, and other projects that have a potential to affect the scenic resources.

Increase opportunities for early landscape architect involvement in project planning. Increase training of people in related disciplines to the competency level where landscape management principles are routinely applied in project planning.

Wild and Scenic Rivers

What monitoring did we do in 2003?

From May to September, river use is monitored 5 days per week through an MOU between the BLM and the Forest Service. Monitoring elements track recreation conflict, perception of crowding, total boating use, and campground use, all of which are recorded yearly.

What did we learn in 2003?

Private boater use was up 4% and commercial use up 10% compared to 2002. Perception of crowding at put-in sites was the same as 2002. Boulder Flat boater put-in exceeded capacity 10 days and Horseshoe Bend parking area 13 days. Campground use was down slightly (Figure 3).

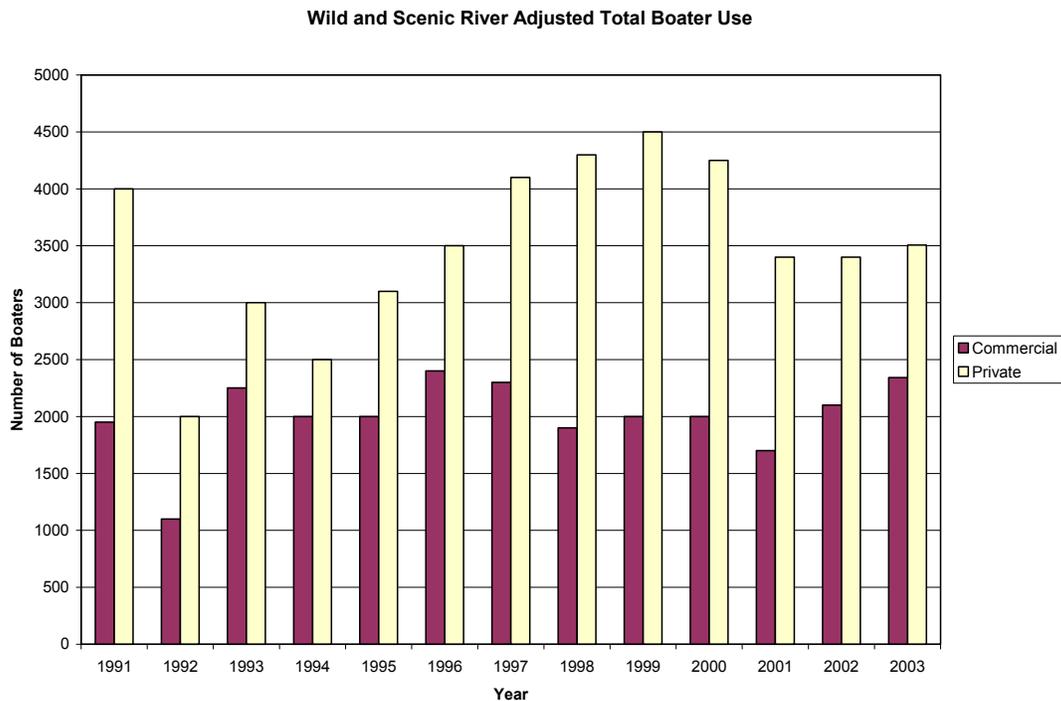


Figure 3. Wild and Scenic River Boater Use.

Amendments

No amendments are recommended at this time.

Recommendations

Continue present direction and monitoring. Improve boater put-in at Boulder Flat. Continue emphasis with BLM partnership and implementation of river user guidelines.

Wilderness

Element # 31- Wilderness Condition

What monitoring did we do in 2003?

Rogue-Umpqua Divide Wilderness: Fire activities from the Tiller Complex continued into the fall of 2002. Fire recovery work was focused on rehabilitation of burned trails in the Lakes Basin. Several wilderness patrols were performed in the Rogue Umpqua Divide Wilderness during 2003, among these were eight patrols performed in 2003 by Fire Protection Officers during April through August.

Monitoring was completed early in FY 03 (October 2002) at one site each in Boulder Creek and Mt. Thielsen Wildernesses. Photo points and surveys were conducted. A similar trip was made into the Maidu Lake area in September of 2003.

What did we learn in 2003?

Following are results of the monitoring effort in the Rogue-Umpqua Divide Wilderness:

1. Over 25 bags of garbage, plastic, etc, were packed out on pack frames.
2. Six incident reports were filed for failure to remove garbage and unsafe and unattended campfires.
3. 2003 patrols recorded less than seven encounters on trails, meeting existing standards.
4. Party size was exceeded at least three times by over size groups to the Fish, Cliff and Buckeye Lakes areas. Three school groups were granted permission with conditions.
5. The "200 feet from water and trails" standard for campsite location was exceeded 95% of the time.
6. Campsite density was within acceptable limits.

There was evidence of intrusion by people and horses within 200 feet of water at Fish Lake where the area is roped off for restoration.

Use reports from trailheads indicate a low level of use in most of the Mt. Thielsen and Boulder Creek Wilderness areas. Highest use is in the Mt. Thielsen Trail, primarily a day-use trail. Moderate camping use was reported by weekend patrols along the Thielsen Creek Trail and the Pacific Crest Trail. The overall use was low in the Boulder Creek

Wilderness. There was some increased use at Kelsay Valley Trailhead with low use at North Crater and Howlock Mountain Trailheads.

Less than 5% of the Wilderness appeared to be affected by user impacts, which fell within the Limits of Acceptable Change in the Wilderness Management Plans identified in Appendices B, C and D. Wilderness use on the Forest is estimated in Table 7 below.

Table 7. Umpqua National Forest Annual Wilderness Use Estimate, FY 2003

Wilderness Visits	
Visits	Error Rate
20,587	39.0%

Amendments

No amendments are recommended at this time.

Recommendations

- Increase monitoring of the “Limits of Acceptable Change.”
- Increase education, awareness and voluntary user compliance for protecting riparian vegetation within 200 feet of water within the Wilderness areas, focusing on areas marked for rehabilitation.

Wildlife and Threatened and Endangered Species

Resource Element - Northern Spotted Owl

CT1/NFWF 14 - Northern Spotted Owl; Umpqua National Forest Plan Chapter V – 16, Table V-1

What monitoring did we do in 2003?

No monitoring was done in 2003. No funding was provided.

Recommendations

The 1994 Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (ROD) resulted in changes to northern spotted owl management. This Monitoring Plan Resource Element should be re-evaluated by the Forest Wildlife Biologist. When the Umpqua LRMP was drafted in 1989 the northern spotted owl had not yet been listed under the Endangered Species Act. Monitoring as described in the LRMP is not consistent with current management.

Resource Element - Blacktail Deer and Roosevelt Elk

CT1/NFWF 15 - Blacktail deer and Roosevelt elk; Umpqua National Forest Plan Chapter V – 18, Table V-1

What monitoring did we do in 2003?

No monitoring of this Resource Element by Umpqua National Forest personnel was done in 2003. Oregon Department of Fish and Wildlife (ODFW) conducted an aerial census on Washboard Ridge and Alpine Loop related to road decommissioning projects in the area. The result of monitoring these two areas is not available. Results specific to the Umpqua National Forest are also not available.

However, general observations regarding deer and elk indicate that populations are down and are continuing to go down (Terry Farrell, ODFW, personal communication). It appears that there may be larger population declines at higher elevations. It may be that there is no decline at lower elevations, or if there is that the impact is not as large as it is at higher elevations.

While this probable decline cannot be attributed to any one factor, any one of the following could be contributing to this overall trend:

- Numbers could be down because there is reduced visibility when doing counts (harvest units have grown in).
- There has been a reduction in anecdotal signs such as game trails on cutbanks and the use of salt licks.
- There could be a reduced amount of forage.
- There could be an increase in predator activity.
- There could be an increase in poaching.
- There could be an over-harvest of animals because too many tags are being issued.

Populations may be stabilizing at a new level that is probably lower than it has been. With past timber harvest there was more forage in early-successional stands resulting in increased reproduction, thus artificially producing higher levels of animals. This in turn resulted in an increase in hunting pressure with no associated reduction in tags.

When all of these factors are taken into consideration there is probably a lower population trend overall for deer and elk.

Recommendations

The 1994 ROD resulted in changes to vegetation management affecting habitat type, condition and use by deer and elk. This Monitoring Plan Resource Element should be re-evaluated by the Forest Wildlife Biologist.

Resource Element - Sensitive Plants and Animals - California Wolverine

CT1/NFWF 16 - Sensitive Plants and Animals; Wolverine inventory and monitoring; Umpqua National Forest Plan Chapter V – 18, Table V-1

No NFIM dollars were available in FY2003 to conduct monitoring associated with this resource element. NFWF dollars were used for this project.

What monitoring did we do in 2003?

This was the third of five planned annual surveys involving aerial track searches and limited helicopter landings in and around the Sky Lakes and Mt. Thielsen Wilderness Areas. The purpose of these surveys is to detect and document the presence of wolverines (*Gulo gulo*) in the southern Oregon Cascades. This is a multi-forest, multi-agency project that includes personnel from the Umpqua, Rogue River, Siskiyou, Deschutes, and Winema National Forests, Roseburg BLM, Oregon Department of Fish and Wildlife, Crater Lake National Park, and PSW Research Station, Redwood Sciences Laboratory.

Twelve reconnaissance flights were conducted on 5 separate days between 19 March and 08 April 2003 – 6 over the Sky Lakes Wilderness Area and 6 over the Mt. Thielsen Wilderness Area (Table 8). A total of 12 hours and 6 minutes of flight time over all wildernesses was used, well within the allowed time limit of 24 hours per wilderness area. There were 2 wilderness landings – 1 each in the Sky Lakes and Mt. Thielsen Wilderness Areas.

Table 8. Summary of flight time and time over wilderness areas.

Date	Survey Area	Flights	Total Flight Time	Time Over Wilderness	Wilderness Landings	Weather
19 Mar 03	Mt Thielsen	1	53 min	41 min	none	overcast, very windy
24 Mar 03	Mt Thielsen	3	4 hr 21 min	2 hr 40 min	1	sunny w/high haze
28 Mar 03	Sky Lakes	3	4 hr 23 min	3 hr 1 min	1	sunny & warm
07 Apr 03	Mt Thielsen	2	3 hr 19 min	3 hr 9 min	none	mostly cloudy w/fog
08 Apr 03	Sky Lakes	3	3 hr 50 min	2 hr 35 min	none	sunny w/high clouds

Recommendations from 2002 that were incorporated into the 2003 wolverine monitoring include:

- Train and make available additional helitack personnel for backups to ensure adequate coverage for the survey season (fire/dispatch training conflicts with survey season)
- Use track templates at helispot for “calibrating” eyes for stride lengths prior to each survey
- Continue to use existing crew as much as possible, experience and consistency is valuable in these surveys
- Link helicopter communications to video recorder or use tape recorder to record survey observations/waypoints (aerial survey field forms distract from survey)
- Coordinate with Willamette NF to avoid flight contractor conflicts (avoid competing for same flight time with same contractor)

What did we learn in 2003?

Wolverines were not detected in 2003. However, tracks and trails suspected by observers to be those of mustelids (probably fishers [*Martes pennanti*], American martens [*M. americana*] or weasels [*Mustela* sp.]) were frequently seen during all flights. Tracks seen near Rustler Peak west of the Sky Lakes Wilderness Area were believed to be those of fishers, as there is an on-going study of radio-collared fishers at that location.

Two sets of tracks showed sufficiently wolverine-like characteristics from the air to inspire landings. These tracks were probably those of American martens, based on measurements in the snow (following Halfpenny et al. 1995). Other tracks seen from the air were likely those of lagomorphs (rabbits [*Sylvilagus* sp.] or hares [*Lepus* sp.]), based on their track patterns, and elk (*Cervus* sp.), which were seen associated with their tracks (Table 9). No tracks of anthropogenic origin were seen in either wilderness area during any flight.

Table 9. Summary of tracks sighted from the air during 2003, with suspected identification.

Study Area	Flight Date	Suspected Identification ¹				
		Large Mustelid ²	Small Mustelid ³	Lagomorph ⁴	Elk	Unk
Mt. Thielsen Wilderness	19-Mar-03	6	1	2		1
	24-Mar-03	29 ⁵	2	1		
	7-Apr-03	14	10	3	many	
Sky Lakes Wilderness	28-Mar-03	many ⁵	many	1		
	8-Apr-03	19	3	6		

¹ Suspected identification based on track size, gait pattern and observer experience.

² Probably fisher or American marten.

³ Probably American marten or weasel.

⁴ Probably rabbit or hare.

⁵ 1 set of tracks measured in snow – probably American marten.

This year, the Project Aviation Safety Plan was amended to include 3 new survey areas: Mt. Bailey and Sawtooth Mountain on the Umpqua National Forest, and Cowhorn Mountain on the shared boundary of the Umpqua, Willamette and Deschutes National Forests. Sawtooth Mountain and Cowhorn Mountain were added because they both contain potential wolverine denning habitat (as defined in the 2001 report, based on Hart et al. 1997), and Mt. Bailey was added because it is adjacent to potential denning habitat. Due to the frequency of human use on Mt. Bailey, no flights occurred there this season; however, we will continue to consider surveying Mt. Bailey as conditions warrant. A

single exploratory flight was attempted on 07 April to survey Sawtooth and Cowhorn Mountains but we were unsuccessful in identifying the potential denning habitat from the air. Future flights to those areas should record waypoints to assist additional surveys. Survey areas for the Sky Lakes Wilderness Area remained the same.

Although the 12 flights conducted in 2003 were the most flown in a single season to date (compared to 6 in 2001 and 10 in 2002), we believe the goal should be to conduct as many flights as possible (weather permitting) to maximize the opportunity to detect wolverines. For example, lactating females may not always leave the den after a snowfall event, so no tracks would be made. By surveying at every available opportunity we increase the chance that tracks will be seen when present.

In addition, due to the large number of tracks seen on typical flights, there is a possibility that wolverine tracks could be sighted, but not recognized as such. If tracks are suspected to be wolverine, this can only be verified by landing and measuring the tracks (see USDA 2001 for methods). Therefore, the number of landings becomes a limiting factor by restricting our ability to check all potential wolverine tracks. We may be reluctant to land on certain tracks so as not to “waste” any landings (which are currently limited to 2 per wilderness area). We hope to amend the Environmental Assessment (USDA 2000) to allow for twice the number of landings for the 2004 season and beyond. It is important to note that we have never received any complaints from the public about our helicopter operations over these wilderness areas.

We also intend to obtain permission to survey over, and land in, Crater Lake National Park. The strategic placement of Crater Lake – between our 2 wilderness survey areas – and the wilderness-like protections inherent in national park land, make this area a potential corridor for wolverine movement between the Forest Service wilderness areas as well as protected potential wolverine habitat within its own right.

This season provided the survey crew with additional experience in search methods, conducting wilderness landings and measuring tracks in snow. However, valuable familiarity with wolverine tracks could be obtained by allowing observers to travel to locations where current field studies have known locations for wolverines (e.g., radio-collared wolverines at field studies in Montana and Idaho). By accompanying researchers on overflights of their study areas, our observers could be trained to recognize verified wolverine tracks.

In the absence of field experience with genuine wolverine tracks, we attempted to “calibrate” observers’ perceptions of track size from the air by creating a series of simulated tracks laid out in the snow at the Lemolo helibase. These tracks showed the size, shape, gait pattern, and track spacing for a “typical” marten and wolverine. The helicopter then ascended to the approximate search altitude above ground, from which observers could subjectively judge relative track differences. Photos and video were also taken of the test tracks. All other recommendations to improve the survey protocol over the 2002 season were implemented.

Recommendations for 2004

- Re-visit the 2000 EA to increase the number of allowed wilderness landings from 2 to 4 per wilderness area per season.

- Obtain permission to survey over and land in Crater Lake National Park.
- Insure that all survey areas allowed by the Aviation Plan are searched, including those added in 2002.
- Maximize the number of flights attempted during the survey season (weather permitting), with the goal of increasing flight time over previous years.
- Coordinate more closely with Roseburg and Medford dispatch for flight following by providing them with advance notice (2-3 days minimum) of imminent flights, so that dispatch personnel can be made available.
- Allow observers to gain survey experience by viewing wolverine tracks from the air in areas where wolverines are known to occur.
- Continue to visually calibrate survey observers using simulated wolverine and marten tracks at helibases.
- Continue to use existing crew members as much as possible, as experience and consistency are valuable in these surveys.

Resource Element - Sensitive Plants and Animals - Townsend's Bat

CT1/NFWF 16 - Sensitive Plants and Animals; Townsend's big-eared bat monitoring; Umpqua National Forest Plan Chapter V – 18, Table V-1

No NFIM dollars were available in FY2003 to conduct monitoring associated with this resource element. NFWF dollars were used to monitor four sites on the forest.

What monitoring did we do in 2003?

Four sites on the forest were surveyed in 2003: Tiller RD - one site; North Umpqua RD - two sites; Diamond Lake RD - one site.

What did we learn in 2003?

The site on the Tiller RD consists of a number of small caves that are utilized by Townsend's big-eared bats and is currently used as a winter hibernaculum. The sites at North Umpqua RD were surveyed twice and continue to support a population of Townsend's bats. The population at the site monitored on the Diamond Lake RD appears to still be reproducing but remains small (exit counts suggest less than 30 reproductive females). This site continues to be occupied year-round as a winter hibernaculum and maternity colony. This population is significantly less than estimates of historical populations.

Recommendations

- Continue to monitor these sites on an annual basis to determine population size and trends.
- Conduct surveys of caves that have a high potential for occupancy by this species.
- Given the reduced population and small number of breeding individuals at the Diamond Lake site, continue the cave closure at this site.
- Draft a cave management plan for sites on the Forest that support Townsend's bats.

Resource Element - Sensitive Plants and Animals - Western Pond Turtle

CT1/NFWF 16 - Sensitive Plants and Animals; Western pond turtle inventory and monitoring; Umpqua National Forest Plan Chapter V – 18, Table V-1.

No NFIM dollars were available in FY2003 to conduct monitoring associated with this resource element. Pacific Power and Light funded this inventory as part of the North Umpqua Hydropower Project settlement agreement.

What monitoring did we do in 2003?

An inventory of a known western pond turtle population was conducted on the Diamond Lake RD utilizing standard survey protocols.

What did we learn in 2003?

This effort confirmed a small (less than 40) but reproductively successful population.

Recommendations

- Continued monitoring will be necessary to determine if the population at the Diamond Lake site is stable, declining or increasing.
- Conduct surveys at ponds that have the potential for occupancy by western pond turtles. There are a number of ponds on the forest that have yet to be surveyed. The Forest Wildlife Biologist should work with district biologists to determine which ponds have the best potential for western pond turtle occupancy.

Resource Element - Bald Eagle Monitoring

CT1/NFWF 17 - Bald eagle monitoring; Umpqua National Forest Plan Chapter V – 18, Table V-1.

No NFIM dollars were available in FY2003 to conduct any monitoring associated with this resource element. NFWF dollars were used to monitor bald eagles.

What monitoring did we do in 2003?

Four known bald eagle sites were monitored in 2003 using regional survey protocol (Table 10). Twenty visits were made to the four known bald eagle nest locations. All sites are on the Diamond Lake RD. Survey results were forwarded to the regional coordinator.

Table 10. Bald Eagle Monitoring for FY 2003.

BALD EAGLE 2003		
Site Number	Status	Young
1	Pair	2 young
2	Pair	2 young
3	Single adult	0 young
4	Pair	2 young

What did we learn in 2003?

All four known sites had eagle activity. One nest location at Diamond Lake was inactive in 2003, while the other three nests on the district each successfully fledged two young. Bald eagle productivity at these locations remains good.

Recommendations

- Continue to monitor all known sites annually.
- Monitor river corridors where adult bald eagles have been seen to determine occupancy and reproductive status.

Resource Element - Peregrine Falcon Monitoring

CT1/NFWF 18 - Peregrine falcon monitoring; Umpqua National Forest Plan Chapter V – 18, Table V-1.

No NFIM dollars were available in FY2003 to conduct any monitoring associated with this resource element. NFWF dollars were used to monitor peregrine falcons.

What monitoring did we do in 2003?

Eleven known and two suspected peregrine falcon sites were monitored using the regional survey protocol. Survey results were forwarded to the regional coordinator.

What did we learn in 2003?

Results are summarized for our known sites (Table 11).

Table 11. Peregrine Falcon Monitoring for FY 2003.

PEREGRINE FALCON 2003		
Site Number	Status	Young
1	Adult observed	No young
2	Pair	2 young
3	Pair	2 young
4	Pair	3 young
5	None observed	n/a
6	Pair	1+ young
7	Pair	No young
8	Pair	No young
9	Pair	No young
10	Pair	2 young
11	Pair	No young

Although the peregrine falcon has been delisted under the Endangered Species Act, reproduction on Forest continues to be sporadic. In some years results are consistent with recovery goals and in other years, such as 2003, reproduction does not meet these goals.

Recommendations

- Continue to monitor all known sites annually to determine occupancy and reproductive status.
- Continue to develop a forest-wide falcon management plan with site-specific recommendations.
- Survey areas that have a high potential for occupancy to determine if peregrine falcons are present.

Resource Element - Pileated Woodpecker

CW1/NFWF 19 - Pileated woodpecker; Umpqua National Forest Plan Chapter V – 18, Table V-1.

What monitoring did we do in 2003?

No NFIM dollars were available in FY2003 to conduct any monitoring associated with this resource element. No monitoring was completed.

Recommendations

- The 1994 ROD resulted in changes to vegetation management affecting late-successional habitat. This Monitoring Plan Resource Element should be re-evaluated by the Forest Wildlife Biologist.

Resource Element - Pine Marten

CW1/NFWF 20 - Pine marten; Umpqua National Forest Plan Chapter V – 20, Table V-1.

What monitoring did we do in 2003?

No NFIM dollars were available in FY2003 to conduct any monitoring associated with this resource element. No monitoring was completed.

Recommendations

- The 1994 ROD resulted in changes to vegetation management affecting late-successional habitat. This Monitoring Plan Resource Element should be re-evaluated by the Forest Wildlife Biologist.

Resource Element - Primary Cavity Nester

CW1/NFWF 21 - Primary Cavity Nester; Umpqua National Forest Plan Chapter V – 20, Table V-1.

What monitoring did we do in 2003?

No NFIM dollars were available in FY2003 to conduct monitoring associated with this resource element. NFWF funds were used for landbird monitoring that provides some information pertaining to this element. In addition, funding for landbird monitoring within the Apple Fire also provided information.

Two Breeding Bird Survey (BBS) Routes were conducted, for a total of 49 miles surveyed. Results of the survey were sent to Patuxent.

In addition, a new BBS route was established within the area of the Apple Fire. Five visits were conducted along a new 21.7 mile route, with results of the survey posted on the Umpqua NF website:

(http://www.fs.fed.us/r6/umpqua/projects/Baked_Apple/landbird_monitoring_report_1.pdf)

What did we learn?

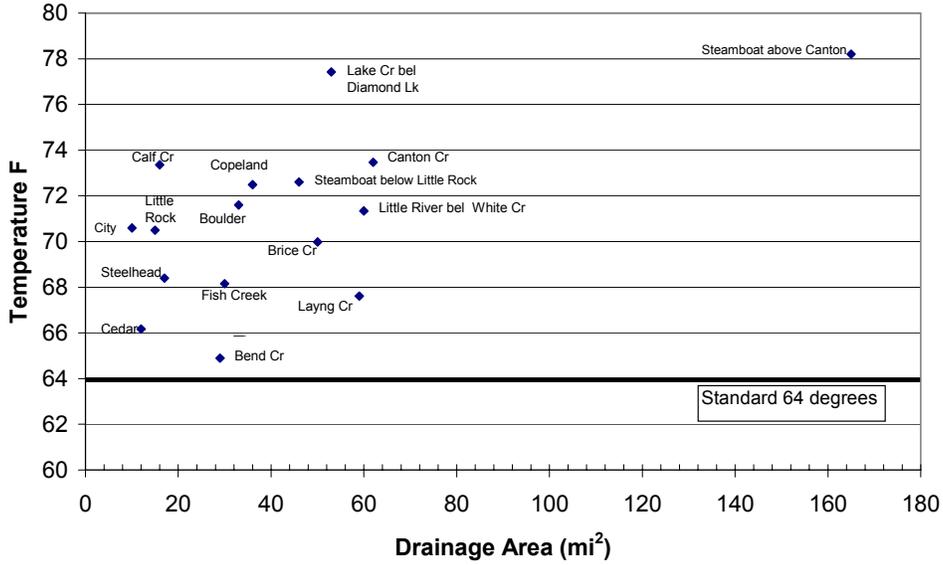
Populations of some forest-dwelling birds are declining. Structural abundance and diversity of forest habitats have decreased because of past management activities. This trend can be reversed by retention of structural diversity after wildfire or harvest activity. Fires occurring in 1996, 2001, and 2002 have retained snags and down wood that will not be removed, providing habitat for cavity nesters. Harvest prescriptions can be written to provide sufficient levels of snags and down wood for these species.

Amendments

Amend the Umpqua National Forest Plan to include standards and guidelines integrating the new information and management recommendations outlined in the Conservation Strategy for Landbirds in Coniferous Forests of Western Oregon and Washington. DECAid is another tool available for revision of the standards and guidelines.

Appendix A – Attached graphs

Seven Day Maximum Temperatures 2003 North Umpqua



Seven Day Maximum Temperatures 2003 South Umpqua

