FY 2004-2005 Monitoring Report

Umpqua National Forest

Photo by Craig Street

March 2006

Dear Friends of the Umpqua National Forest:

Enclosed are the results of the fiscal years (FY) 2004-2005 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, Umpqua National Forest, 2900 NW Stewart Parkway, Roseburg, OR 97470, 541-672-6601.

/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 Years (FY) 2004-2005 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 FY04 and FY05, the Forest was directed to staff at 82.5% of the Most Efficient Level (MEL). With this type of financing, the Forest expected to see 2,064 acres burned for a cost-plus-loss of $14.5 million.

The fire seasons on the Umpqua were light to below normal in activity, although the potential for large fire growth was present during parts of the fire season. Fire season began on June 12 and ended October 2 for a total of a 126 day season for the 2004 season. The fire season in 2005 began on June 30 and ended on October 3, for a total of 96 days. There were a total of 27 fires for 10 acres in 2004 and 21 fires for 2.35 acres in 2005.

Inadequate outdated National Fire Management Analysis Systems (NFMAS) runs may lead to a shortage in staffing levels in future years. Costs exceeded projections in FY04 and FY05 because of the outdated NFMAS information. The region is aware of this and the Forest is working to solve future funding issues. In FY04 and FY05 the suppression budget was supplemented by severity requests.

Fuels: For FY04, the Forest accomplished 454 acres of prescribed fire treatment. Hazardous fuels funded 236 acres, and another 218 acres were treated through brush disposal (BD) and Knutson-Vandenburg (KV) funds. Mechanized treatments were utilized to treat 565 acres of activity-created fuels. The Forest met approximately 98% of the resource objectives on hazardous fuels burning and the results were evaluated on post monitoring burn forms attached to the District burn plans.

For FY05, the Forest accomplished 1,077 acres in hazardous fuels reduction, while BD treatments were 641 acres.

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 FY 04-05, the Forest completed 26 and 19 miles (respectively) of Level II stream surveys, collected and analyzed aquatic macroinvertebrate samples (one year only), operated 2 smolt traps on the Tiller Ranger District, and completed spawning ground surveys and redd counts on numerous streams.

The streams surveys and macroinvertebrate analyses found that many streams within the managed landscape continue to have “at risk” or “not properly functioning” attributes, including high water temperature, lack of floodplain connectivity, scoured out stream channels and reduced large woody material, primarily because of past management practices. Recent instream work and other restoration efforts are improving some attributes and overall conditions in a small number of high priority streams; however, much work remains to be done to move existing conditions toward the desired condition on many more streams.

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 FY04-05 monitoring field checks were completed at 147 prehistoric or historic sites, and on 21 project areas, totaling 1,751 acres. Six sites on the Umpqua National Forest in the Heritage Site Stewardship program were monitored in partnership with the Cow Creek Band of Umpqua Tribe of Indians. Fourteen incidences of looting were documented and investigated. The Forest continues an active education program to discourage looting.

Minerals

For FY04-05, locatable minerals had 9 approved plans-of-operation on mining claims of record. The Cottage Grove RD had the majority of those claims, totaling seven. Additionally, during FY 2005 there were 57 Notices of Intent to mine filed, all of which were on the Cottage Grove Ranger District.

Salable minerals activity during fiscal years 2004-2005 included a total of 175 "rock permits" issued on the Forest for a total of about 29,000 tons of common variety mineral-materials. Roughly 25,150 tons of rock materials were sold to Forest contractors and around 3,850 tons were sold to the public, mostly for landscape-decorative applications. In addition, approximately 99,650 tons of rock resources were developed at Forest designated material sources for internal use.

Range

The Tiller Ranger District had the only active range allotment in FY04-FY05. Approximately 47,230 acres are under allotment, with 838 head months of use during 2004 and 795 head months of livestock use during 2005. Seventeen permanent monitoring sites were maintained. Overall, compliance with the Annual Operating Instructions is good.

Recreation

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. The Oregon Cascades Recreation Area showed no overall increase in use for FY04-05.

A winter visitor use survey was completed in 2005 by West Virginia University in cooperation with The Pennsylvania State University on the Diamond Lake Ranger District. The surveys showed that "the typical Diamond Lake winter visitor is a repeat visitor who has been visiting the recreation area for a long period of time" and the "majority of the visitors (51%) also recreated at Diamond Lake during the summer." "Motorized users reported a much higher number of visits in the past year than the non-motorized user or sledders" and "the majority of visitors rated their overall satisfaction with their visit to the Diamond Lake Area very highly, with over three-fourths rating their experience 8 or higher on a 10 point scale."

Developed facilities were also surveyed for use. Summer use at Diamond Lake RD remained fairly constant from previous years, but winter use in 2005 was lower because the snow pack levels were less. The North Umpqua Ranger District was down 15% in overnight camping from 2003 levels for both 2004 and 2005. For the Tiller Ranger District, demand for developed sites

exceeds capacity on holiday weekends, summer weekends, and at some sites during hunting season. For the Cottage Grove Ranger District the developed overnight campsites, Rujada, Cedar Creek, Hobo, Lund, and Mineral continue to exceed capacity on summer holidays and most mid-late summer weekends. Camping fees were increased for the 2005 recreation season. Recreation rental of Forest Service lookouts and historic cabins continue to be popular and a highly desired recreation opportunity.

Soil and Water

Best Management Practices (BMP) checklists were written for 4 out of 20 ground-disturbing activities in FY04, or 20 percent. Checklists were written for 6 of 18 activities in FY05, or 33 percent. Those BMP checklists that were written are being implemented. In FY04-05, 30 streams were monitored for temperature; monitoring showed that temperature has not changed. Four streams were monitored for turbidity; the monitoring results showed that turbidity levels have not changed (Appendix A). No soil productivity reports were completed on the Forest.

Timber and Vegetation Management

The timber volume offered for sale from the Umpqua National Forest was higher in FY 04, and in FY 05 the Forest offered a successful 'green' timber program. Volume sold in FY 2004 was slightly over 37 million board feet, primarily as a result of selling the salvage sales that resulted from the 2002 fires. In FY 2005, the Forest sold over 25 million board feet, primarily from commercial thinnings. The Forest continues to move toward intermediate entries in those older managed plantations that present an opportunity for commercial thinning.

About 3,400 acres were planted on the Forest in FY 2004; in FY 2005, about 1,991 acres were planted; seedling survival rates after year one averaged 71% during both fiscal years.

Transportation

Traffic counts on the Umpqua National Forest showed that weekend traffic increased on the Toketee-Rigdon road 5% from 2003 to 2004. The Diamond Lake loop road at the SW corner of Diamond Lake had an increase of more than 50%. Brice Creek road showed a 16% decrease, while both Windigo Pass and the South Umpqua road showed decreases of 25%. The rest of the traffic counts were essentially unchanged. A total of 1.8 miles of new permanent roads were built on the Forest. Approximately 3.9 miles of road were decommissioned across the Forest in 2004, including 0.6 miles of road in the South Umpqua watershed, and 1.4 miles in the Steamboat watershed. Approximately 13.8 miles of road were decommissioned across the Forest in 2005, including 6.7 miles of road in the South Umpqua watershed and 1.8 miles in the Steamboat watershed.

Visuals

The visual resource condition across the Forest is largely unchanged from 2003. The 2002 wildfires continues to visually modify portions of the viewsheds (remaining within Standards and Guidelines) on both the Tiller RD and the North Umpqua RD into 2004-2005 because of fire damage and the effects of salvage logging in some of the fire-damaged areas.

Scenic quality continues to be assessed during project planning efforts across the Forest. Emphasis on thinning managed plantations has reduced some of the obvious visual quality conflicts typically associated with clear-cutting practices. Implementation of fuel reduction projects in the under-story of coniferous forests in wildland-urban interface areas, such as along the Myrtle Creek-Canyonville tour route, has had beneficial effects on scenic quality and enhanced the tour route experience. Visual quality effects and mitigations were included in the Diamond Lake Restoration Project Final Environmental Impact Statement.

Wild and Scenic Rivers

In 2004-2005, monitoring continued on the North Umpqua Wild and Scenic River (recreation river designation) through an MOU between the BLM and the Forest Service. At present, only the results of monitoring for the FY 04 season are available. Private boater use was up by 25% while commercial use decreased by 11%. Perception of crowding remained the same as in 2003. The Boulder Flat put-in exceeded capacity 16 days during the boating season. Boulder Flat was the most heavily used put-in area (1,984 user days). The most frequent take-out area was Gravel Bin (2,789 user days).

Wilderness

Monitoring was completed in FY 2004 and 2005 in the Boulder Creek, Rogue-Umpqua Divide and Mt. Thielsen Wildernesses during April through August. Overall use remains low in the Boulder Creek Wilderness and Mt. Thielsen Wilderness. Higher use is associated with the Pacific Crest Trail (PCT) and trails 1456 and 1459. Use levels and patterns are stable, with some decline of use on Fish Lake Trail 1570, perhaps due to the effects of the 2002 wildfires.

Wilderness patrols found that 95% of dispersed campsites near lakes exceed the 200 feet from water and trails standard. Campsite density met the “primitive” standard of an 80% probability of one or less campsites audible or visible within 500 feet. Party size was exceeded three times by oversized groups in the Rogue-Umpqua Divide.

Wildlife and Threatened/Endangered Species

In 2005, the first of a five-year monitoring study of the northern spotted owl (*Strix occidentalis caurina*) was conducted. The U.S. Fish and Wildlife Service proposed surveying for northern spotted owls before and after a thinning and hazardous fuels removal project was implemented in order to determine effects of these activities on the northern spotted owl.

In 2004 and 2005, the Oregon Department of Fish and Wildlife (ODFW) continued to monitor deer and elk populations. In 2004, the first year of a multi-year study on elk recruitment, nutrition, and predation was conducted on the Diamond Lake Ranger District.

In general, Forest-wide observations show that deer and elk populations are down and are continuing to go down. Aerial census data indicates that numbers of elk have decreased since peaking in the mid-1990’s. It appears that there may be larger population declines of deer and elk at higher elevations, with numerous factors contributing to the decrease.

Monitoring for wolverine continued in 2004. The monitoring conducted in 2004 was the fourth of a proposed five year, multi-agency on-going effort to find this species on the Forest. Eighteen flights were conducted on five separate days. Seven flights were conducted over the Sky Lakes Wilderness Area and the southern half of Crater Lake National Park, and 11 over the Mt. Thielsen

Wilderness Area and the northern half of Crater Lake National Park. There were no helicopter landings in 2004 due to the lack of safe landing sites in the places where potential wolverine tracks were seen. As in earlier years, no wolverines were detected on the Forest.

Wolverine monitoring in 2005, the fifth and final year of this study, was not conducted as funding for the project was not provided.

Townsend's bats are monitored at three sites on the Forest. Two of the three sites were monitored in 2004 and 2005 and both sites continue to be occupied. A Forest-wide cave management strategy has been drafted that allows sites to be protected, resulting in the opportunity for successful reproduction at these sites.

Bald eagles were monitored at all four known sites on the Forest. Three of the four pairs successfully produced young in 2004 and 2005.

Peregrine falcon sites were also monitored. Eleven known sites and two suspected sites were monitored. Three new sites have also been discovered, bringing the total to fourteen known sites on the forest. Most of the sites have successfully fledged young, and some sites have done so consistently year after year.

Finally, primary cavity nesters and landbirds were monitored on one project area on the forest. A Breeding Bird Survey (BBS) route was established in 2003 within the boundary of the Apple Fire. This BBS route was surveyed again in 2004 and 2005, with nearly 22 road miles surveyed each year. Across the Forest, some landbird populations are declining; however, retention of snags within the 2002 fires is expected to contribute to the stabilization of some cavity nester populations.

Detailed Resource Area Reports

Fire and Fuels

What monitoring did we do in 2004 and 2005?

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 this monitoring item is to determine if plan output assumptions are not valid because of catastrophic losses from wildland fires. The unit of measure used to determine this is acres and percent of area damaged.
2. PF2 BDBD FFFP 54, fuels treatment. The objective is to determine if fuels treatments are meeting expected resource management and protection objectives. The 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. The objective is to determine if 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. The unit of measure is acres and cost.
4. FA121/NFSW 56, Total Suspended Particulates (TSP)[1]. The objective is to attain compliance with State and Federal laws, the Clean Air Act, and State Implementation Plan. Unit of measure is tons of TSP.

Suppression/Presuppression – Under this category the Forest was financed at 82.5% of the Most Efficient Level (MEL) based on FY99 NFMAS (National Fire Management Analysis System) planning inflated to FY04 and FY05 dollars. With this type of financing, the Forest can expect 2,064 acres burned for a cost-plus-loss of $14.5 million.

The fire season on the Umpqua was light to below normal in activity, although the potential for large fire growth occurred during the season. Snow pack levels for the 2004-2005 seasons were 65% of normal, well below normal but not nearly as bad as 2000-2001. The previous 3-year trend was also well below normal. Fire season began on June 12 and ended October 2 for a total of a 126 day season in 2004; there were a total of 27 fires for 10 acres.

Based on the acres burned there was an actual cost plus loss of approximately $13.7 million dollars. The actual savings based on this formula was $0.8 million within monitoring item 1 and 3 above. According to Page 39 of Chapter V or the LRMP, no changes in suppression strategies are needed as we did not exceed 20% acreage burned over our NFMAS level.

Fuels – During FY 2004, the Forest treated 565 acres of activity fuel and 454 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. According to monitoring parameters outlined above, the Forest did not exceed the 20% threshold identified as not meeting objectives on prescribed burning. In 2005, resource objectives were achieved on the majority of treatments, exceeding 98%.

[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.

TSP – According to the TSP production chart (Figures 1 and 2), the Umpqua NF is well below the TSP goal. In 2004 and 2005 TSP amounts decreased very slightly, but still well below the TSP goal.

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

What did we learn in 2004-2005?

Suppression/Presuppression – The NFMAS run parameters for a below normal to normal year are adequate for protection. For monitoring purposes, the Forest is well within thresholds. One item that the Forest had to deal with in 2004 and 2005 was that the NFMAS costs did not keep up with actual costs on the ground. Due to changes in policy and direction, the increased its leadership and non-producer costs related to oversight of a safe and effective program.

From NFMAS runs, fire season was identified as being 130 days; the Forest was below that by 4 days. In 2004 and 2005, the Forest relied on severity dollars and resources associated with severity starting July 20 and ending September 20. The Forest must continue to monitor costs over those shown in the NFMAS run and relate them to true costs.

The Forest learned that the NFMAS run is outdated and that a more accurate budget analysis tool needs to be used. In 2005, the Forest will begin moving forward with the FPA (Fire Program Analysis) that is due to take effect in real dollars in 2007. Until then, the Forest will need to keep the Region informed that the costs for 2005 and beyond are not adequate and do not represent the actual dollars needed on the ground to meet the 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 reported that over 5,000(+) acres of fuels treatments could be accomplished if regional allocations would allow this. Currently, the Forest is constrained by the BFES cap and the high cost per acre for treatments compared to the eastern portion of the Region. The Timber and Hazardous Fuels Board of Directors (BoD) needs to develop a strategy for adjusting the BFES cap and for helping the Region to understand the Forest has reduced costs per acre substantially, but cannot compete well with low costs per acre on the eastside of the Region. At the 2005 Forest Leadership Team meeting there was a strategy and direction for where fuels dollars are to be allocated first. In 2005/2006 the Forest worked on a fuels marketing strategy that deals with Fire Regime Condition Class and priorities for dollar allocations. The Umpqua is moving towards become competitive for dollars based on this strategy.

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 (Figures 1 and 2). This reduction has been accomplished by spring broadcast burning and leaving sufficient large woody material for long term site productivity.

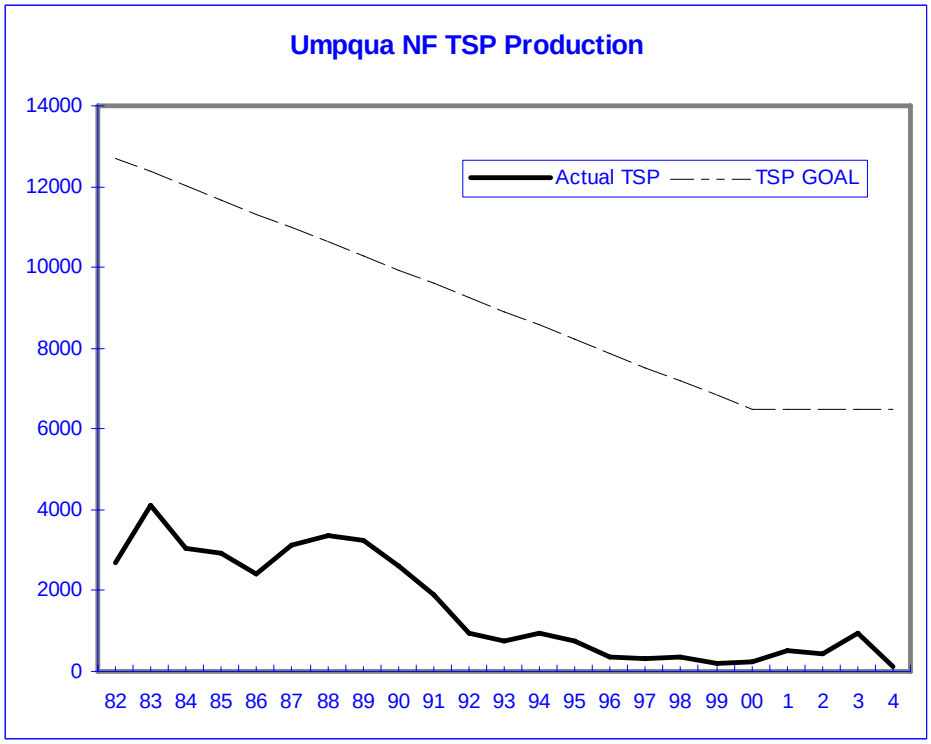


Figure 1. Total Suspended Particulate (TSP) Production Graph 2004.

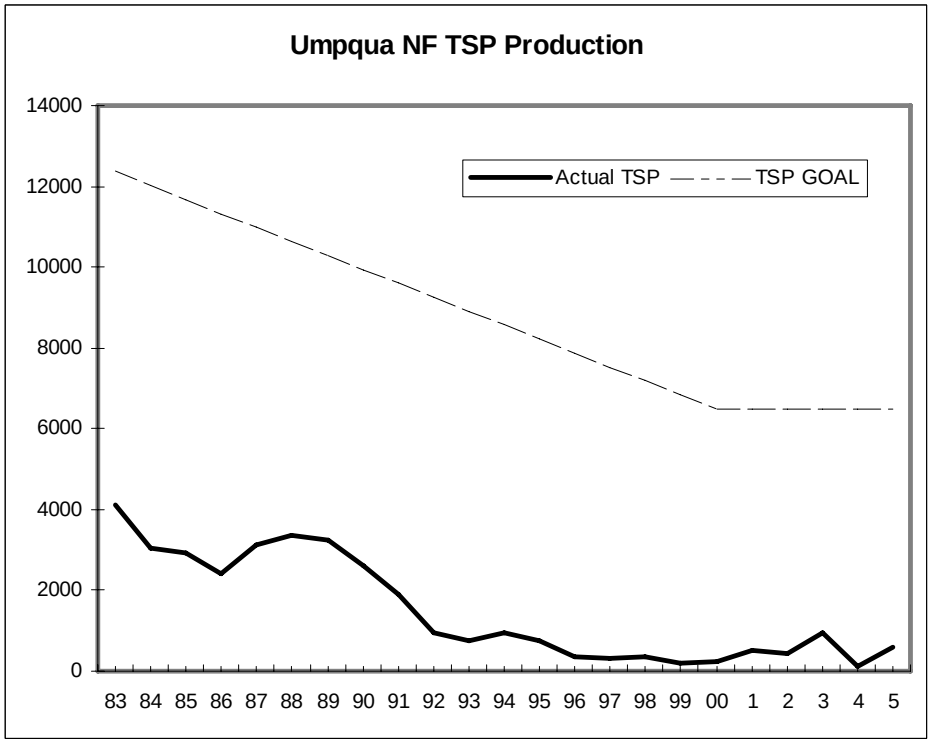


Figure 2. Total Suspended Particulate (TSP) Production Graph 2005.

Recommendations

For the upcoming fiscal year, recommendations to the Forest Leadership Team (FLT) would be:

- **Suppression/Presuppression** – Understand and plan at the MEL level that the Forest is funded for. For the next couple of years, the Forest will be dealing with the NFMAS runs and outputs associated with the 1999 certification. The Regional Office understands this plight, with leadership and inflation costs not being adequate and can only assist in limited ways.
- The Forest also has the leeway to change the mix of resources within the NFMAS run, but must be diligent in making sure the resources still meet the FPCC (firefighter production capability) levels identified in NFMAS that determine the MEL staffing levels.
- Move ahead as needed to prepare for the upcoming FPA budget analysis process so that the 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. The Forest has finished developing block cards and can better meld the District lines to accomplish resource protection at a lesser cost plus net value cost (C+NVC) 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 (WUI) 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. The Forest needs to work with the County and communities to finish their community protection plans so they are competitive for Regional dollars.

  It is recommended that the Forest finalize the 5-year vegetation strategy, so that there is a comprehensive and cohesive burning/hazardous fuels program on the Forest. In addition, regular planning for fuels activities needs to occur in order to build a hazardous fuels program on the Forest. 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 Remote Access Weather Station (RAWS) sites into administrative sites and a Categorical Exclusion (CE) needs to be completed to maintain these permanent sites to standards set within RAWS maintenance plans.

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 2004-2005?

ME-06: Three of the four Ranger Districts conducted Level II Stream Surveys in 2004 and 2005, totaling 26 miles in 2004 and 19 miles in 2005. This represents 15% and 11%, respectively, of the Forest Plan level of 176 miles annually.

ME-11: Two smolt traps (South Umpqua River & Jackson Creek) were operated in both 2004 and 2005, both at the Tiller Ranger District. This represents 20% of the Forest Plan level of 10 sites each year.

ME-12: No Pool Quality transects were inventoried in 2004 or 2005. This represents 0% of the Forest Plan level of 8 transects for each of the two years.

ME-13: Fifteen macroinvertebrate sites were sampled in 2004, while none were sampled in 2005. There was no macroinvertebrate analysis conducted in 2004 (none were collected in 2003) and the 2004 samples were analyzed in 2005. This represents 0% of the Forest Plan level (35 sites) in 2004 and 43% of the Forest Plan level in 2005.

ME-24: No Large Woody Material transects were inventoried in either 2004 or 2005. This represents 0% of the Forest Plan level of 8 transects.

Other monitoring included:

- 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 in both years, and Joe Hall Creek in 2005. Additionally, Tiller completed several mid-summer spring Chinook holding counts in established index pools in the South Umpqua River in both years.
- In both 2004 and 2005, 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.
- In both 2004 and 2005, North Umpqua completed multiple surveys for steelhead on several transects in the Steamboat Creek watershed and an adult spring Chinook spawning survey on the mainstem North Umpqua River in 2005.

What did we learn in 2004-2005?

The stream survey work was conducted to establish baseline conditions. Results from 2004 and 2005 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 large woody debris (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 Threatened, Endangered and Sensitive (TES) fish and other aquatic organisms. Restoration will be based on the FY 2000 Restoration Business Plan priorities, e.g., Steamboat, Middle South Umpqua, and Middle North Umpqua watersheds.

Calculated indices from the macroinvertebrate sampling also support previous findings that most stream segments, particularly those in managed portions of the Forest, are in generally impaired

ecological condition. Of the possible of 45 ratings, 35 scored Low (23) or Very Low (12), while only 10 scored Moderate (7) or High (3). None were rated as Very High. While these scores are at the lower end of the historical scale, they are likely within the expected annual variation. There are insufficient data points to ascertain if there is a definitive trend, either continued decline or, as desired, restoration of stream function within the sample watersheds.

Results from the smolt trapping conducted in both years 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; this is 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 remain impaired and are 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. For further information, see Forest Monitoring Plan elements NFSW-9 (Stream Temperatures) and NFSW-10 (Sediment, Turbidity, and Streamflow).

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 both years was mixed. Healthier stocks, such as North Umpqua spring Chinook and winter-run steelhead, saw generally constant numbers over the past 10-year average. 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 for the period 2002-2005. 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 (optimally) 15 macroinvertebrate sites.
- 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.
- Initiate a more comprehensive effectiveness evaluation of recent large-scale habitat restoration work in the Steamboat and Middle South Umpqua watersheds.

Heritage Resources

What monitoring did we do in 2004-2005?

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 took place at 147 prehistoric or historic sites, and on 21 project areas, totaling 1,751 acres.

What did we learn in 2004-2005?

Fourteen incidents of archaeological looting were documented and an appropriate investigation was conducted for each incident. Public outreach and stewardship activities will be increased in an effort to decrease looting. The archaeological resources were found in high probability areas as defined by the Forest Inventory Plan.

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. 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 2004-2005?

Element # 57:

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. Districts indicate that field verifications/ inspections of mining Plans of Operations are being conducted.

Element # 58:

District field units no longer have the personnel or capability to conduct Total Station surveys or prepare pit development plans for entries into Forest designated material sources. The Forest

Rock Resource Manager prepares pit development (excavation) plans when Project Team Leaders or District field units make such needs known well in advance; otherwise such plans that are prepared by contractors or others generally may not include information required by the revised 1992 Forest Rock Resource Management Plan. Surveys, when needed, are conducted by the SO Survey Crew during the summer field season. District field units still continue to issue mineral-material sale permits.

Annual reviews of the Forest Rock Resource Management Plan have not taken place due to lack of funding and personnel. Forest resource managers have not identified any particular aspects of the Forest Rock Resource Program that are in conflict with standards and guidelines outlined in the 1990 Forest LRMP and the 1994 Northwest Forest Plan. The 1994 Northwest Forest Plan drastically altered many of the assumptions made in the 1990 Forest LRMP regarding annual consumption of rock resources. Because of downsizing and retirements, there is a need to revise those aspects of the Forest Rock Resource Management Plan that pertain to roles and responsibilities of District field units.

Rock resource projections made in the Forest LRMP for the decade of the 1990's were based upon a timber sale program that averaged between 300 and 350 MMBF harvest per year, which required roughly 257,000 loose cubic yards of rock resource needs per year. The reduced timber sale program on the Forest that began in the early 1990's, has greatly reduced the need to extract large volumes of rock materials needed to construct and maintain an extensive road network.

Findings reported from a decade of Forest LRMP monitoring reports regarding the annual production of rock resources disclosed that the volume (tonnage) of common variety mineral-materials extracted and utilized is averaging about one-tenth that which was projected under the 1990 Forest LRMP (Figure 3).

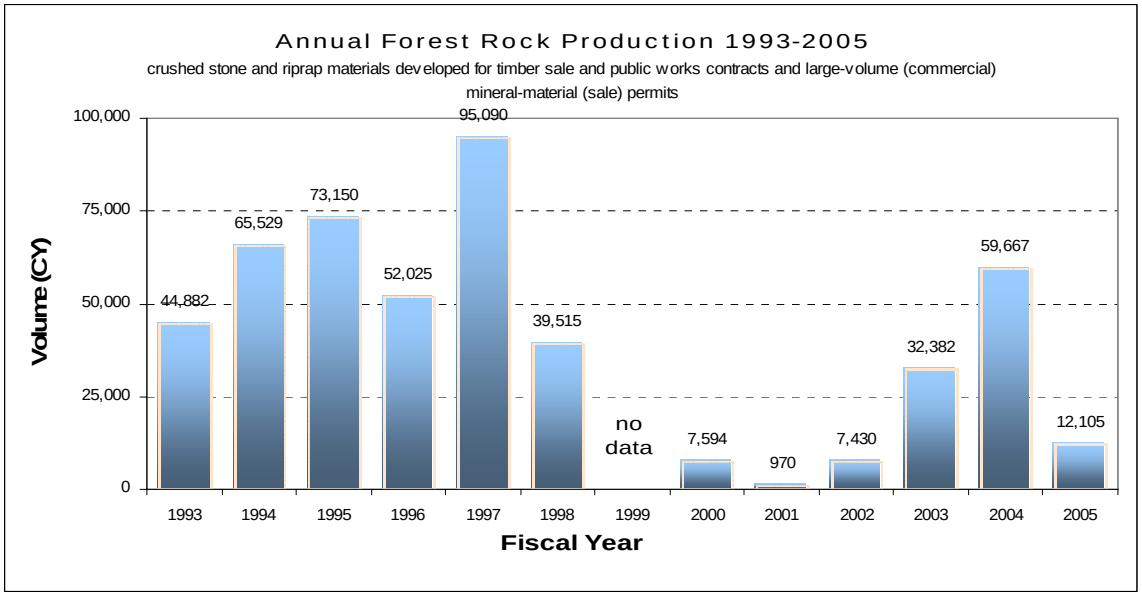


Figure 3. Annual Production of rock resources from 1993 through 2005.

What did we learn in 2004-2005?

Locatable Minerals (#57)

There are about three hundred forty individual mining claims of record, as indicated on the Bureau of Land Management Records, as being within the boundaries of the Umpqua National Forest. Most of the locatable mining activity was on the Cottage Grove Ranger District in FY 2004 and 2005. Seventy four of these claims are active, with Notice of Intent level work or Plan

of Operation level work occurring. The complexity and time for processing each case to approve the proposed mining activities continues to increase, as does the complexity and workload in the locatable minerals program.

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. The Tiller Ranger District had no locatable minerals activity of the past four years.

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

There is a need (over the past several years) to revise aspects of the Forest Rock Resource Management Plan that pertain to the preparation and review of pit development (excavation) plans, and to clarify the roles and responsibilities of those engineering personnel on the Forest who develop projects involving large-volume rock removal. A more effective process needs to be developed for how Engineering Project Team Leaders and District field units inform the Forest Rock Resource Manager (in a timely manner) of the need to enter into a particular material source.

Many of the monitoring questions posed in the 1990 Forest LRMP with respect to Resource Elements # 58 and 59 are no longer valid due to on-going reductions of the workforce, and the reduced need for rock resource development and extraction.

Entries into Forest designated material sources today extract much less volume (tonnage) than during the periods of high levels of timber harvest. Current trends in the consumption of common variety mineral-materials suggest that sufficient quantities of quality rock resources are still available within the Forest's developed material sources to meet anticipated Forest and public needs into the foreseeable future (Table 1). There is no urgent need to monitor the long-term availability of rock resources since it is being consumed at nearly one-tenth the volume projected in 1990.

A total of seven material sources were entered on the Forest during fiscal years 2004 and 2005 that required preparation of a pit development (excavation) plan[2]. The Forest Rock Resource Manager prepared plans on four[3] of the seven material sources entered during fiscal years 2004-2005.

Table 1. Reported production (removal or stockpiling) of common variety mineral-materials from timber sale and public works contracts (Forest Service internal use) and mineral-material (sale) permits during fiscal years 2004-2005.

Type Mineral-material ***(Commodity)***	**Ranger District**	**# Sale Permits**	**Sale Permit** ***(tons)***	**Forest Internal Use** ***(tons)***	**Totals** ***(tons)***
Crushed stone	Diamond Lake	4	20,340	68,285	88,625
Riprap	Diamond Lake	3	4,800	6,880	11,680
Landscape (decorative) rock	Diamond Lake	13	553		553
Crushed stone	Cottage Grove			17,100	17.100
Riprap	Cottage Grove			240	240
Landscape (decorative) rock	Cottage Grove	22	396		396
Crushed stone	Tiller			6,665	6,665

[2] A plan is required when site development involves more than 1,000 cubic yards of rock removal or placement in a stockpile for future use

[3] For the other three large-volume entries, District field units or Project Team Leaders did not provide sufficient lead time for the Forest Rock Resource Manager to review of those plans, which did not contain sufficient information, as required by the 1992 Forest Rock Resource Management Plan.

Type Mineral-material *(Commodity)*	**Ranger District**	**# Sale Permits**	**Sale Permit *(tons)***	**Forest Internal Use *(tons)***	**Totals *(tons)***
Riprap	Tiller			333	333
Landscape (decorative) rock	Tiller	40	1,399		1,399
Riprap	North Umpqua			160	160
Landscape (decorative) rock	North Umpqua	93	1,516		1,516
TOTALS		**175**	**29,004**	**99,663**	**128,667**

In April 2005 the Forest released the "Forest Desk Guide for the Disposal of Common Variety Mineral-Materials" to assist district personnel in the identification of various rock commodities disposed by mineral material (sale) permit and how to prepare mineral-material (sale) permits. On June 6, 2005, the Forest updated the royalty fees charged to the public for the disposal of common variety mineral-materials via issuance of a mineral-material (sale) permit. The updated royalty rates and associated fees are to be incorporated into a Forest supplement to FSM 2850 on Mineral-Materials sometime during fiscal year 2006.

Amendments

No amendments are recommended at this time.

Recommendations

- Update the Forest Rock Resource Management Plan to reflect current conditions.

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).

What monitoring did we do in 2004-2005?

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 pasture of the Summit Allotment and the Collins Ridge pasture of the Acker Divide Allotment, were monitored during the 2004-2005 grazing seasons. 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 2004-2005 range administration program, including the monitoring component, was fully funded.

What did we learn in 2004-2005?

The Forest authorized 838 head months of livestock use in 2004 and 795 head months of livestock use in 2005. According to the Term Grazing Permit, the scheduled turnout date is May 1; however, it was delayed until May 19 in 2004 and June 3 in 2005. Range readiness, which determines turnout on the basis of plant phenology and soil moisture conditions, indicated slower than normal plant development in early May in 2004 and high soil moistures throughout the range during May 2005 due to the unusually wet spring weather.

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, as well as 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). As shown in the following tables all of the use thresholds were met. For the Drew Creek, Diamond Rock and Divide Allotments, the 2004-2005 data, displayed in Table 2, was consistent with findings from prior years. The year 2005 marks the sixth full season of use for these allotments since 1999 when the District reconfigured its historic range program in order to continue to provide grazing opportunities, but within an environmental framework of moderate to low risks for resource impacts from livestock activities. This level of consistency indicates the permittees for Drew Creek, Diamond Rock and Divide Allotments have developed a pattern of use that allows cattle to be successfully grazed. This level of success has involved five years of adaptive management, including cooperation, monitoring and skilled application of grazing practices.

Table 2. Summary of Grazing Use at Monitoring Sites on the Drew Creek, Diamond Rock and Divide Allotments.

Monitoring Sites	Site	Type	Threshold (%)	2004 Actual Use (%)	2005 Actual Use (%)
Threehorn	Riparian	Forage Use [1/]	10	Not detected	Not measurable
	Riparian	Vegetation Structure [2/]	10	Not detected	<1
	Riparian	Streambank Stability [3/]	20	Not detected	Not detected
RD 1615	Riparian	Forage Use	10	Not measurable	Not measurable
Crossover Meadows	Upland	Forage Use	25	Not measurable	Not measurable
	Riparian	Vegetation Structure	10	<10	<10
Peavine Camp	Riparian	Forage Use	10	Not measurable	Not measurable
B.Bates Meadow	Upland	Forage Use	25	<10	Not measurable
	Riparian	Vegetation Structure	10	<10	<5
East Fork Cow Creek	Riparian	Forage Use	10	<10	<5
	Riparian	Streambank Stability	20	5	<5
RD 3201 MP 0.8	Riparian	Forage Use	10	Not measurable	Not measurable
Lower Camp Creek	Riparian	Forage Use	10	Not measurable	Not detected
Upper Camp Creek	Riparian	Streambank Stability	20	<1	<1

[1/] Forage use measures utilization by weight as compared to control plots.
[2/] Vegetation structure measures reduction in canopy cover of ground vegetation as compared to control plots.
[3/] Streambank stability measures the amount of bank instability, attributable to all causes, in key reaches.

Both the Forest Service and permittee monitoring data noted increased cattle use at the Peavine Camp monitoring site in 2004, where use was evident but fell within the threshold. This use continued into the 2005 season, an indicator of continuing dispersal and use of higher elevation areas by cattle within the Diamond Rock Allotment, which the permittee has been focusing on through herd management. This use also confirms that the Peavine Camp water development is serving its intended purpose of drawing cattle to the outlying areas of the allotment. Dispersing cattle in this manner distributes use among plantations, as well as moves livestock use away from sensitive lower elevation wetlands and meadows. One such area, a sedge wetland, is monitored at RD 3201 MP 0.8. There has also been acceptable use at the East Fork of Cow Creek monitoring site, which is situated below Peavine Camp.

There has been better utilization of certified plantations in the Drew Creek Allotment, particularly within Unit 23-4, where forage use was measured at 25 percent without measurable impacts to the riparian area represented by the adjoining Lower Camp Creek monitoring site. Previous

monitoring reports (2001-2002) have cited the need to more fully utilize Unit 23-4 as means of relieving grazing pressure in sensitive areas.

The permittee for the Divide Allotment has rotated cattle use to the northwest portion of the allotment in 2004 and has continued to graze cattle in the same area in 2005. This new pattern of use is largely responsible for the very low cattle use at the wetlands represented by the Threehorn monitoring site, as well as the riparian area at the RD 1615 site. It also has eliminated cattle straying onto County Road 1 above Threehorn Campground.

The monitoring requirement for *Hydnum umbilicatum* was eliminated in 2004 because there was no longer a Survey and Manage component under the Northwest Forest Plan and the species was not reclassified as Sensitive. However, periodic checks were conducted in conjunction with the Threehorn monitoring sites in 2004. No livestock encroachments were observed at this fungus site in the Divide Allotment.

In 2003, Tiller Ranger District authorized livestock grazing at Pickett Butte and Collins Ridge based on adaptive management. The 2004 grazing program represented the first full season of use for these pastures; and the Forest and permittee were aware of new challenges that were absent during the previous year when cattle entered the range on August 2nd and livestock use was focused primarily in the higher elevation areas. These challenges included turning out cattle under spring-time conditions and working cattle to achieve good distribution throughout the entire pasture without unacceptable resource damage. Another challenge involved addressing encroachment by cattle at a private holding on Collins Ridge in 2005.

Because of the wet spring preceding turnout in 2005, there were concerns regarding grazing within the lower elevation pine and oak meadows that are situated along the Forest Road 2929 livestock travel way. To address these concerns, the District chose not to place livestock on the range below the meadow complexes; and instead required the permittee to turnout cattle above MP 5 on Road 2929, nearly two miles above the meadow complexes. As shown in Table 3, forage use at the RD 2929 PP Meadow monitoring site (located at MP 3.2) was measured at less than 10 percent, compared to 20 percent in 2004 when cattle were turned out below the meadows. The 2005 use was attributable to cattle drifting back in late June. They were removed from the meadows in early July and there was no use of the meadows by cattle after the District's follow-up inspection on July 11th.

Table 3. Summary of Grazing Use at Monitoring Sites on the Pickett Butte and Collins Ridge Pastures.

Monitoring Sites	Site	Type	Threshold (%)	2004 Actual Use (%)	2005 Actual Use (%)
RD 3113-110	Upland – TR [1/]	Forage Use [2/]	50	10-50	10-40
Branch Fence	Upland – TR	Forage Use	50	<5	5-20
Branch Riparian	Riparian	Streambank Stability [3/]	20	<5	<5
RD 3113-200	Riparian	Forage Use	10	<10	10
	Riparian	Vegetation Structure [4/]	10	10	<10
RD 2929 PP Meadow	Upland – Meadow	Forage Use	25	20	<10
Bullock	Riparian	Forage Use	10	<10	<10
	Riparian	Vegetation Structure	10	<10	10
RD 2980-625	Riparian	Forage Use	10	<10	<5
	Riparian	Streambank Stability	10	<5	Not detected
Cedar Shelter	Riparian	Vegetation Structure	10	<10	<5

[1/] Transitory Range

[2/] Forage use measures utilization by weight as compared to control plots.

[3/] Streambank stability measures the amount of bank instability, attributable to all causes, in key reaches.

[4/] Vegetation structure measures reduction in canopy cover of ground vegetation as compared to control plots.

This first full grazing season in 2004 for Pickett Butte and Collins Ridge was a test for the turnout pattern developed by District staff and the permittee. During turnout, the permittee trailed cattle from the home place to RD 3113-110 in the Pickett Butte Allotment, which enabled the cattle to graze the abundant forage within the roadside commercially thinned units. Cattle were trucked to the Collins Ridge Allotment, and dispersed into certified plantations along Forest Roads 2929 and 2929-300. Turnout on the Pickett Butte Pasture was delayed in 2005 for nearly one week following turnout at Collins Ridge because of moist soil conditions.

As expected in 2004, there was good very good forage utilization at the RD 3113-110 monitoring site, as well as within the old ponderosa pine plantations on Collins Ridge. There also was moderate use at the RD 2929 PP Meadow monitoring site, which was established to represent the low elevation pine and oak meadow habitats on Collins Ridge. There were concerns of overuse at the latter site since it supports palatable grasses in the spring and adjoins the Forest Road 2929 livestock travel way. Utilization was measured at 20 percent, which falls below the use threshold of 25%.

Applying adaptive management practices, the permittee placed mineral supplements at several locations within the pastures to better control cattle distribution and use in 2004. The supplements, contained within heavy-duty plastic tubs, were placed on dead-end spur roads and landings, away from sensitive areas. The objectives of this practice are to hold cattle in certified plantations to utilize forage, to minimize straying and to draw use away from areas such as wetlands and meadows. This practice is accompanied by actively herding the livestock. The permittee continued the practice of placing mineral supplements at several locations in 2005 within the pastures to better control cattle distribution and use.

There are continuing indications in 2005 that the use of supplements may be contributing to redistributing cattle use, particularly in the Bullock area on Collins Ridge. In 2004, there was a notable increase in cattle presence in the plantations along Forest Road 2980-700 east of Bullock, where a supplement station is located, and an equally notable reduction in cattle use in the Bullock area on Forest Road 2929-300. Although any cause and effect relationships have yet to be validated, forage use at the monitoring site declined significantly, from 25 percent in 2003 to less than 10 percent in 2004. This same trend of increased cattle presence in plantations surrounding the RD 2980-710 supplement station east of Bullock and reduced cattle use in the Bullock area occurred again in 2005. Forage use in the Bullock monitoring site approximated that measured during the 2004 season.

There also was a notable increase in cattle presence within the certified plantations along Forest Road 2980-500 in the eastern portion of the Collins Ridge pasture, where a second supplement station is located. This is an indicator that cattle are dispersing throughout the pasture instead of concentrating in certain areas. In addition, there are indications that this station may be attracting cattle away from the wetlands found near the road's terminus. These wetlands are represented by the Cedar Shelter monitoring site, which saw a 50 percent decline in use in 2005 compared to 2004.

Grazing also increased at the Branch Fence in the Pickett Allotment this season. This 23 year-old, 300-acre plantation produces good forage, but had been minimally used in the past. There was 20 percent use in localized areas in 2005. Grazing is also increasing in plantations west of the Bullock, perhaps due to the development of sumps for fire suppression on private lands in the vicinity.

For the second year in 2004 and third consecutive year in 2005, grazing use at the RD 3113-200 monitoring site fell within the thresholds for riparian forage use and vegetation structure. This seasonal wetland, which was significantly impacted under the historic program, is considered to be the most problematic area with respect to grazing in the Pickett Butte pasture. The District has focused much of its attention on this site, and the permittee has expended considerable effort in managing grazing patterns in the immediate area. The extent of cattle impacts here is an indicator of the degree of grazing success for the Pickett Butte Pasture. On September 1st, 2005, EPA staff (Region 10) inspected this site. Its report stated that livestock impacts appeared to be minimal based on observations.

As adjustments are made to better manage cattle within the pastures, unintended consequences, including straying, occur. There have been encroachments on to private land at Collins Ridge. In addition, there is straying onto the Jackson Creek Road (Forest Road 2900). The permittee is addressing this straying problem with the use of supplements and active herding as means of prevention. Additional monitoring is needed on the part of the permittee to stay on top of the problem. Although resource impacts due to strays have been within the use thresholds, and despite the corrective actions on the part of the permittee, the potential for damage nonetheless exists.

The 2004 monitoring that was conducted noted livestock encroachment at Collins Ridge, as well as a recommendation to develop adaptive solutions. The adjusted turnout described for 2005 to address spring conditions was also intended to avoid straying onto the private holding that is accessed by Forest Road 2929-249. The landowner had sustained property damage in prior years when cattle had been turned out near the access road. The 2005 season's turnout took place over two miles above the road junction. According to the landowner, there had been no cattle encroachment as of September 12th, 2005. However, the landowner subsequently reported that a trespass had occurred on October, during round-up. In spite of this singular incident, this approach may be a way to relieve grazing pressure for this holding.

Straying also occurred on the west-side of the Pickett Butte Allotment in 2005. To address this problem, the District and permittee will be reassessing water development locations, supplement stations, and possibly fencing.

Amendments

No amendments were identified for 2004-2005.

Recommendations

- Continue to engage permittees to develop a common understanding of resource problems and common solutions to reduce risks.
- Working with the permittee, develop adaptive solutions to resolve the straying problem in the Pickett Butte and Collins Ridge pastures.
- Require the permittee of Pickett Butte and Collins Ridge pastures to increase monitoring commitments.

Recreation

Element #25- Developed Recreation; Element #26-Dispersed Unroaded Recreation; Element #32- Oregon Cascades Recreation Area; Element #33- ORV Use; Element #35- Special Interest Area Condition; Element #36-Recreation Use in Dispersed Roaded and Unroaded Environments.

What monitoring did we do in 2004-2005?

#25 Developed Recreation: Recreation use level were monitored based on overnight camping fee collection receipts.

The INFRA – Developed Recreation Module was updated to facilitate completion of the Recreation Facility Master Plan. The Diamond Lake Restoration Project Final Environmental Impact Statement and Record of Decision were issued in 2004, setting the stage for implementation in 2005.

For the Tiller Ranger District, effectiveness monitoring was conducted. Dumont Creek Campground was re-opened after vegetation treatment to mitigate tree hazards associated with laminated root rot, and facility renovations. Boulder Creek Annex Campground remained closed due to tree hazards associated with the 2002 wildfires.

For the Cottage Grove Ranger District, some validation monitoring was conducted. Condition surveys were conducted on 100% of the Cottage Grove Ranger District recreation facilities. Dispersed sites were reviewed and identified for potential restoration and traffic control measures.

#26 Dispersed Unroaded Recreation: An analysis of management direction, existing conditions and user preferences for winter recreation on the Diamond Lake Ranger District was initiated for incorporation into a Diamond Lake Winter Recreation Guide. Potentially affected interests were contacted to express their preferences and knowledge for a "Sense of Place" geographic mapping exercise for winter recreation areas and opportunities on the Diamond Lake District.

A winter visitor use survey was completed in 2005 by West Virginia University in cooperation with The Pennsylvania State University, titled "Winter Use Recreationists on the Diamond Lake Area: A Survey of Characteristics, Behaviors and Perceptions." This survey (Burns and Graefe, 2005) was conducted to determine use, existing or potential conflicts, any perceived adverse environmental affects, and identify potential needs or actions that could be implemented.

No condition surveys were conducted on the Tiller RD. A MA1 Condition Survey was completed in the Hardesty Area for validation in 2004. Trail condition surveys were conducted along Trails 1400 and 1401 for the purpose of identifying trail maintenance needs and no significant changes to the area were noted.

#32 Oregon Cascades Recreation Area: No specific surveys were completed.

#33 ORV's: Summer Off Road Vehicle (ORV) use was not formally monitored on the Diamond Lake District. On the Tiller RD the use and demand is generally low, except during fall hunting season, although use is increasing. This element is being monitored through updates of the Forest Access and Travel Management Plan. On the Cottage Grove Ranger District, trail use and condition is being monitored through annual trail condition surveys. Two Jeep Clubs continue to provide volunteer support to the 4x4 trails of Noonday and Sultana Way #1405, including the "Junction City Jeepers" who continue to support the trail through the "Adopt-A-Trail" program.

In 2005 the Forest provided general evaluations to the Region of risk or threat to natural resources from ORV/Access, recreation-riparian interface and dispersed recreation management. Across the Forest, by "Sense of Place" unit, there was a medium to low level of concern for the situation, risk and management, except for the South Umpqua corridor where there is a high concern in localized areas in the recreation-riparian interface and dispersed recreation management areas. The Diamond Lake Winter Recreation Visitor Use Survey was completed in 2005 and included motorized winter use (see Recreation summary).

#35 Special Interest Area Condition: No use counts were conducted. Fee receipts and an ocular inspection indicate the visitor use was high during the summer. Condition surveys were completed on Cow Creek Gorge SIA, Camp Comfort Old Growth Grove, and Flood Creek Old Growth Grove.

What did we learn in 2004-2005?

#25 Developed Recreation: The PAOT Days offered on the Diamond Lake District are reduced from historic levels, but similar to previous years. Summer use at Diamond Lake RD remained fairly constant from previous years, but winter use in 2005 was lower because the snow pack levels were less. Collection receipts show recreation use remaining constant from previous years but still down from use in earlier years to the decline in fishing in 1993 and recent algae blooms in Diamond Lake.

The North Umpqua Ranger District was down 15% in overnight camping from 2003 levels for both 2004 and 2005. This may be due to increased gasoline costs.

The demand for developed sites on the Tiller Ranger District exceeded capacity on holiday weekends, summer weekends, and at some sites during hunting season. Use in Industrial Camps is primarily recreation use.

On the Cottage Grove Ranger District the developed overnight campsites, Rujada, Cedar Creek, Hobo, Lund, and Mineral continue to exceed capacity on summer holidays and most mid-late summer weekends. Use dropped to an average of 10-20% during week days for Rujada and Cedar Creek Campgrounds. Recreation rental of Forest Service lookouts and historic cabins continue to be popular and a highly desired recreation opportunity. Fairview View Peak Lookout Rental (implemented in FY 2002) was rented 80% of the available season (67 days rented/75 day season) and Musick Guard Station was rented approximately 33% of the season (41 days/125 day season). The recreation fee retention program is working on the Cottage Grove Ranger District to benefit the management and improvement of federal developed recreation sites, as well as to the general public who are benefiting from the increased maintenance items at these smaller, less commercial sites.

#26 Dispersed Unroaded Recreation: The Diamond Lake winter recreation use surveys showed that "the typical Diamond Lake winter visitor is a repeat visitor who has been visiting the recreation area for a long period of time" and the "majority of the visitors (51%) also recreated at Diamond Lake during the summer." "Motorized users reported a much higher number of visits in the past year than non-motorized <users> or sledders" and "the majority of visitors rated their overall satisfaction with their visit to the Diamond Lake Area very highly, with over three-fourths rating their experience 8 or higher on a 10 point scale."

The survey showed "few real conflicts between different user groups at Diamond Lake." Some different points of view exist between Nordic and Motorized use, mostly on Mt. Bailey. "Respondents agreed that it is generally acceptable to have skiers, snowshoers, snowboarders and snowmobilers use the same areas within the Diamond Lake area" (Burns and Graefe, 2005).

On the Tiller RD the public contact is inadequate due to reduced budgets and lack of personnel. Vegetative impacts continue in the riparian reserves, especially in the South Umpqua River Corridor.

On the Cottage Grove RD, dispersed recreation use along Brice Creek continues to increase. Use along Sharps Creek is limited by the location of placer mining claims and use here remains fairly constant. Inadequate funding and personnel did not permit consistent O&M patrols or public education/information during 2004. Law enforcement is lacking as well and therefore, resource impacts and degradation is occurring at most riparian dispersed sites along the Brice Creek

corridors. Residency and illegal drug-related activities are common in the more remote dispersed/non-fee sites and therefore patrols by individual recreation personnel is avoided due to concerns for personal safety.

There were no noticeable changes from FY 2003 on the remainder of the Forests dispersed sites.

#32 Oregon Cascades Recreation Area: There is no indication of increased use, except during hunting season, and specifically the 1-2 week elk season.

#33 ORV's: Summer off-road use is increasing, especially during hunting season. There is increasing demand for access to ORV routes from the Diamond Lake Recreation Area. Winter off-highway-vehicle use (motorized recreation) in 2005 is down from 2004 and 2003 due to low levels of snow pack. The Diamond Lake Winter Recreation Guide is expected to be completed in calendar year 2005.

#35 Special Interest Area Condition: Visitor use remains high at the Umpqua Hot Springs. Fee receipts from the Recreation Pass help provide restroom and garbage services and patrols.

Based on method of monitoring and frequency, a condition survey was not completed for either Brice Creek Old Growth Grove (OGG, formerly Lund OGG), or Fairview Creek OGG. A condition survey for Fairview Creek is scheduled for FY 2005.

Condition surveys on the Tiller RD were completed on the Cow Creek SIA, Camp Comfort Old Growth Grove, and Flood Creek Old Growth Grove.

#36 Recreation Use in Dispersed Roaded and Unroaded Environments: Due to reduced budgets and lack of personnel, public contact was inadequate in the South Umpqua River Corridor to enforce regulation of vehicle access management, vegetation impacts, human waste, and garbage violations.

Intermittent weekend recreation patrols were funded and conducted on the Cottage Grove Ranger District. A few sites (Gleasons Cabin and Cascade Bend) are more remote and therefore these two sites typically attract "less than desirable people" that use and abuse the sites. Due to personal safety concerns, these two sites were not patrolled. Resource impacts to these sites are occurring as the result of no public sanitation or enforcement of wood cutting and off-road driving/parking.

Amendments

No amendments are recommended at this time.

Recommendations

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

Element #25:

- Implement the Diamond Lake Restoration Project Final Environmental Impact Statement and Record of Decision. 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.
- On the Tiller Ranger District, convert the Industrial Camps to Forest Camps. Plan for increasing the number of developed sites. Evaluate the resource impacts of recreation use at the South Umpqua Falls Group Camp. Consider additional traffic controls and law enforcement in the South Umpqua Falls Corridor, as funding permits. Consider designating day-use areas within the South Umpqua Corridor to reduce the human waste/water quality issues in the riparian areas.

- On the Cottage Grove Ranger District, continue to consider further improvements to Hobo Camp to mitigate resource damage and unplanned expansion.

Element #26:

- Complete the Diamond Lake winter recreation use assessment.

Element #33:

- Increase public information about appropriate off-road vehicle use through brochures and increased visibility on the Forest website.
- Develop a strategy to implement the new Forest Service policy on ORV use during the next four years.

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, to the extent that funding is available.
- Address public sanitation and vegetation impacts from visitor use in undeveloped areas, to the extent that funding is available.
- Consider increasing traffic control, surfacing, and/or other improvements at high use dispersed camp sites in the Brice Creek Corridor to address water quality issues and resource impacts. Continue evaluations of a potential Brice Creek riparian restoration project to control use in these areas in a manner to reduce damage to dispersed sites immediately adjacent to Brice Creek.

Element #36

- Seek partnership funding and volunteer assistance for the Cottage Grove RD to improve trail/improvements and provide an appropriate interpretive plan.
- Consider an increase frequency of inspections to enforce "Pack-it-Out" policy.
- Seek opportunities for partnership to develop interpretive plans for these special areas on the Tiller RD, as interpretive plans are needed.

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 2004-2005?

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 4 activities out of 20 ground-disturbing activities (20%) in 2004. Checklists were written for 6 activities out of 18 activities (33%) in 2005.

The Forest Plan identifies 29 streams to have temperature measured each summer on the Forest. Thirty streams were monitored in 2004 and 2005.

Four (4) streams were monitored to show if turbidity is changing for winter flows of the same size. Turbidity and flow was measured on Layng, Steamboat, Canton Creeks, and the North Umpqua Wild and Scenic River in 2004-2005. The Forest Plan requires four monitoring sites. Layng Creek turbidity analysis for 2005 was not available for this report, and will be included in the 2006 monitoring report.

The Forest Plan requires Soil Productivity reports. No reports were completed in 2004 or 2005 due to lack of funding.

What did we learn in 2004-2005?

BMP's are being implemented, according to checklists written for some timber sales and other activities that operated in 2004 and 2005. Checklists were written for about 20-30%[4] of the projects planned each year. Before 2004, completed checklists showed that most practices are implemented on the projects that were monitored. Project inspectors make comments on completed checklists that help modify practices to make them more effective. In some cases, people and funding were not available for BMP checklists, but contract administrators documented that best management practices were used in their inspection reports.

Stream temperature did not change, although 2004 and 2005 maximum summer water temperatures were naturally cooler than the warmer summers of 2002-2003. No large streams on the attached graphs (Appendix A) met the Clean Water Act and Oregon standard of 60.8 degrees in summer 2004 and 2005. 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 on the North Umpqua River) is 71 degrees, warmer than some streams and cooler than others of its size. High stream temperatures are a mixture of natural causes (some streams never were cooler than 64 degrees), and management causes (removal of trees shading the streams and salvage of down logs in the stream bed). Some streams are naturally warmer than 64 degrees, but are also warmer because of logging and channel disturbance. Logs placed in the South Umpqua's 78-degree Boulder Creek in 2004 and 2005 may accumulate gravel in future floods, allowing summer flow to percolate through the stream bed and become cooler.

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 shows that high turbidity in the 1970's has decreased in these streams. In some years, turbidity increased, 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. On Boulder Creek (a designated Wilderness), turbidity and streamflow have been measured since 1993. The only bridge access to the Boulder Creek stream gage was destroyed by a falling tree in 2003, and no turbidity measurements were taken in 2004 or 2005. The bridge has been replaced, and measurements are being collected in 2006 for next year's report. Turbidity of Layng Creek, the municipal water supply for the city of Cottage Grove, was lower than most years and has changed little from 2003 to 2004. Layng Creek streamflow and turbidity from 2005 are not ready for this report, but those results will be included in next year's monitoring report.

[4] While some checklists were prepared, no Ranger Districts were able to provide copies of checklists for projects that were completed in 2004-2005. Clearly, funding and staffing do not permit writing checklists, and using them to check water quality practices (log suspension or water bars, for example) on all Districts and all projects.

Soil productivity monitoring shows how timber harvest practices maintain soil characteristics and organic matter, or recommend ways to improve them. No reports were completed for 2004 or 2005 due to lack of funding.

Amendments

Soil and Water elements should be amended or corrected in the Umpqua National Forest LRMP (Chapter 5 - 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 from the Forest LRMP Monitoring Plan.

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 or use lake water while camping. At a minimum, information should be posted at these and other recreation lakes to warn the public of potential risks from algae toxins.

Recommendations

- Until the Forest Plan is amended, all projects with ground-disturbing activities should have BMP checklists. The Monitoring Plan requires Best Management Practice Checklists on every ground-disturbing activity. Ranger Districts should continue monitoring, and until the Forest Plan is amended or corrected, complete BMP checklists to comply with the Forest Plan.
- 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 provide baseline information so streams can be compared to water quality standards. Water temperature monitoring is part of Water Quality Management Plans under the Clean Water Act 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 projects and share those results with the staff that plan ground-disturbing activities. The monitoring should continue and more soil science services are needed. The Umpqua has one soil scientist on the Timber Planning Team for planned harvest activities, and one soil scientist at

Diamond Lake Ranger District to prevent, correct, and assess soil damage from all other activities (vegetation and fuel treatments, active timber sales, soil restoration for past activities). These soil scientists were fully occupied with planned work and were not funded to complete soil monitoring reports in 2004 or 2005.

- In July and August 2001-2005, 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 the Umpqua National Forest did weekly May-September early warning measurement of algae of public health risks at Diamond Lake from 2002 through 2005. In 2005, the Forest joined the Oregon Department of Human Services to carry out statewide guidelines for issuing joint public health advisories. Also, monitoring of the proposed 2006 Water Quality Restoration of Diamond Lake began in November 2005, including (1) the flow of Lake Creek and drawdown of Diamond Lake, (2) water quality of Diamond Lake, groundwater around the lake, and Lake Creek, and the North Umpqua River, and (3) aquatic life in Diamond Lake, Lake Creek and downstream. PacifiCorp, Oregon DEQ, and the Oregon Department of Fish and Wildlife are cooperating to document the lake restoration.
- 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 of this monitoring has been done for 30 years, and all is important to meet National Environmental Policy Act (NEPA), the Clean Water Act, National Forest Management 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 NFIM (Inventory and Monitoring) and other funds.

Timber and Vegetation Management

What monitoring did we do in 2004-2005?

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 2004-2005?

Reforestation during the 2004-2005 period was concentrated in the acres burned during the 2002-2003 fire seasons, specifically the Apple, Tiller Complex, and Kelsay fires. Douglas-fir is the principle species planted although ponderosa pine, sugar pine, western white pine, incense-cedar, western redcedar, and Shasta red fir were also planted. The pines all had excellent survival while Shasta red fir continues to perform poorly. The latter was planted only on limited acres on the Diamond Lake Ranger District.

First-year seedling survival (Douglas-fir) is up slightly from the 63% reported for 2003 (Table 4). Third-year seedling survival and success dropped sharply in 2005 following improved success during the 2004 growing season. Harsh conditions in the burned areas contributed to seedling mortality during this period, although cooler temperatures and above average rainfall during the spring to early summer months during both years helped survival.

Reforestation needs are being met from a number of funding sources including Title II dollars. Identified reforestation needs in the burned areas are anticipated to be completed during 2006-

2007. The Forest continues to have a substantial backload of plantations in need of thinning, pruning, or other stand improvements. Blister rust surveys completed in 2005 indicated a >10% increase in the need to prune five-needle pines. Current timber stand improvement needs are estimated to be 25,683 acres. Timber stand improvements occurred on approximately 2,000 acres during fiscal years 2004-2005.

The timber volume offered for sale from the Umpqua National Forest was near the assigned target in 2004, with the Forest selling 37 million board feet of timber; much of that volume was related to the 2002 fire salvages. In 2005, the Forest sold 25 million board feet, just short of the assigned target; nearly all of that timber offered was 'green', marking the first time in many years that the Forest has had a successful green timber sale program. Much of the volume sold in 2005 was primarily a result of selling commercial thinnings on older plantations. As in 2003, the Forest continues to move toward intermediate entries in those older managed plantations that present the opportunity for commercial thinning. In 2005, an inventory of second growth plantations was completed, with about 10,000 acres of stands examined.

Table 4. Silvicultural activities in 2004-2005.

Activity	FY 04	FY05
Acres planted during fiscal year	3,429 ac	1,991 ac.
Seedling survival after first growing season (previous year)	71%	71%
Seedling survival after third growing season (planted 3 years prior to survey year shown)	83%	63%
% of acres that were satisfactorily reforested at initial planting, based on 3rd year survey results	76%	44%

Amendments

No amendments are recommended at this time.

Recommendations

- Continue to closely monitor stock quality and response in the field and work with the tree 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 2004-2005?

Element # 27 - Traffic volume on ten high-use sites and three project specific sites was collected. Traffic data was compiled for 2004 for comparison with previous years. Road system mileage by maintenance level (ML) 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 2004-2005?

The sites showing definite increases in weekend traffic from 2003 to 2004 are:

Toketee-Rigdon Road	about 5%
Diamond Lake loop (SW corner)	more than 50%

The sites showing decreases are:

Windigo Pass	about -25%
Brice Creek	about -15%
South Umpqua Road	about -25%

In 2004, a total of 1.8 new miles of road were constructed, and 3.9 miles were decommissioned, while in 2005, a total of 1.8 new miles of road were constructed, and 13.8 miles were decommissioned.

Changes from 2003 to 2005:

Level 3-5 mileage reduced by 2 miles
Level 2 mileage reduced by 379 miles
Level 1 mileage increased by 325 miles

The following is a summary of the miles of road by maintenance level[5] in 2005 by ranger district. Table 5 is a summary of traffic volume information at key monitoring sites on the Forest.

	Maintenance Level					
District	**1**	**2**	**3**	**4**	**5**	**Total Miles**
Cottage Grove	111.3	294.2	43.6	25.5		476.3
Tiller	487.5	1090.4	154.3	38.8		1,770.9
Diamond Lake	537.5	461.8	62.4	53.5	44.0	1,159.5
North Umpqua	409.9	815.9	69.7	43.8	0.9	1,391.2
Total:	1,548.3	2662.2	329.4	161.6	44.9	4,797.9

Subject to Highway Safety Act: **535.9 (11.2%)**
Not Subject to Highway Safety Act: **4,262.0 (88.8%)**

Table 5. Traffic Volume Information at Key Sites.

Location			1994	1995	1996	1997	2002	2003	2004	Change 2003-2004
Site 1	**Weekdays**					320	346	327	223	No actual change
Diamond Lake	**Weekends**		550	580	450	505	550	513	331	July-Aug not counted
North Entrance	**All**		433	444	397	373	406	379	253	
Site 2	**Weekdays**					56	65	57	67	No change
Little River	**Weekends**		104	100	88	95	101	106	106	
Road	**All**		92	99	82	68	75	71	81	
Site 4	**Weekdays**					311	Counter	Not	Not	
Diamond Lake	**Weekends**		450	510	570	416	Not	Working	Working	
South Entrance	**All**		441	433	475	329	Working			
Site 6	**Weekdays**						Counter	47	114	Increased by more than 50%
D.L. Loop	**Weekends**						Not	49	135	
Southwest corner	**All**						Working	47	117	

[5] 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.

Location			1994	1995	1996	1997	2002	2003	2004	Change 2003-2004
Site 9	**Weekdays**						**71**	**64**	**60**	**No change**
D. L. Loop	**Weekends**						**114**	**91**	**81**	
S. of Thielsen View	**All**						**84**	**72**	**65**	
Site 20	**Weekdays**					**106**	**111**	**110**	**140**	
Toketee- Rigdon	**Weekends**		**138**	**150**	**160**	**152**	**172**	**166**	**175**	**+5%**
Road	**All**		**127**	**142**	**148**	**120**	**129**	**126**	**150**	
Site 22	**Weekdays**						**60**	**56**	**58**	**No change**
Thorne Prairie	**Weekends**						**95**	**91**	**83**	
	All						**70**	**66**	**65**	
Site 26	**Weekdays**					**23**	**23**	**43**	**36**	
Windigo	**Weekends**		**40**	**22**	**27**	**39**	**32**	**60**	**44**	**-25%**
Pass	**All**		**32**	**13**	**27**	**27**	**25**	**48**	**38**	
Site 30	**Weekdays**					**Not**	**86**	**99**	**92**	**No change**
Lemolo Lake	**Weekends**		**148**	**125**	**110**	**Available**	**133**	**144**	**134**	
Road	**All**		**120**	**127**	**117**		**99**	**112**	**98**	
Site 32	**Weekdays**					**13**	**24**	**14**	**14**	**No change**
Copeland Creek	**Weekends**		**18**	**28**	**35**	**19**	**29**	**28**	**22**	
Road	**All**		**37**	**25**	**32**	**15**	**25**	**18**	**17**	
Site 40	**Weekdays**					**41**	**40**	**56**	**63**	**No big change**
Layng Creek	**Weekends**		**64**	**74**	**70**	**55**	**62**	**68**	**63**	
Road	**All**		**66**	**66**	**67**	**45**	**46**	**59**	**64**	
Site 50	**Weekdays**					**77**	**75**	**91**	**69**	
Brice Creek	**Weekends**		**165**	**138**	**105**	**147**	**157**	**175**	**118**	**-16% after adjusted for missing months in 2004**
Road	**All**		**85**	**95**	**79**	**95**	**98**	**114**	**85**	
Site 60	**Weekdays**					**Not**	**201**	**143**	**134**	
South Umpqua	**Weekends**		**215**	**202**	**150**	**Available**	**246**	**201**	**154**	**-25%**
Road	**All**		**205**	**172**	**168**		**213**	**159**	**141**	
Site 70	**Weekdays**				**Failed**	**Failed**	**Loop**	**Loop**	**Loop**	
Jackson Creek	**Weekends**		**55**	**45**			**Needs**	**Needs**	**Needs**	
Road	**All**		**40**	**74**			**Replacing**	**Replacing**	**Replacing**	
Site 100	**Weekdays**					**52**	**65**	**66**	**70**	**No change**
Steamboat Road	**Weekends**		**85**	**80**	**75**	**102**	**96**	**100**	**94**	
	All		**107**	**86**	**89**	**66**	**73**	**76**	**78**	

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 2004-2005?

The Aesthetics Management Plan was completed in 2004 by PacifiCorp on the North Umpqua Hydroelectric Project, FERC Project No. 1927, in consultation with the Umpqua National Forest, as per the Settlement Agreement. This included field evaluations of selected areas to evaluate condition and potential actions/needs. The Aesthetics Management Plan Implementation Studies as per Settlement Agreement Sections 16.3 and 16.4 were completed and prepared for review in 2005. These included the Penstock and Surge Tank Painting Analysis and the Transmission Line Visibility Analysis. Both analyses included field observations, discussions of alternatives, and follow-up computer simulations of selected color options.

Consultation occurred with Oregon State Parks (permitting agency), in coordination with the Roseburg District of the Bureau of Land Management, on effects on scenic quality of a proposed private timber land harvest partially located within the legal boundary of the North Umpqua Wild and Scenic River Corridor.

Informal field monitoring was conducted in selected viewsheds across the Forest including the Canyonville-Myrtle Creek Tour Route, the Layng Creek Corridor, the Brice Creek Corridor, the Rogue-Umpqua National Scenic Byway, and the Lemolo Lake and Diamond Lake Recreation Composites.

What did we learn in 2004-2005?

The Visual Resource Condition across the Forest is largely unchanged from 2003. The conditions of the fire damaged areas which occurred in 2002 and 2003 have changed slightly with limited fire salvage activity and follow-up planting. This will set the stage for long-term rehabilitation of these areas. The 2002 wildfires continue to visually modify portions of the viewsheds on both the Tiller RD and the North Umpqua RD into 2004-2005, but still remain within Standards and Guidelines.

Scenic quality continues to be assessed during project planning efforts across the Forest. Emphasis on thinning strategies in forest vegetation has reduced some of the obvious visual quality conflicts typically associated with clear-cutting practices. Implementation of fuel reduction projects in the under-story of coniferous forests in wildland-urban interface areas, such as along the Myrtle Creek-Canyonville Tour Route, has had beneficial effects on scenic quality and enhanced the tour route experience. Visual quality effects and mitigations were included in the Diamond Lake Restoration Project Final Environmental Impact Statement.

The commitment of PacifiCorp to be a responsible company and sensitive to the environment was illustrated by their diligent and professional follow-through, in consultation with the Umpqua National Forest, to the Settlement Agreement for the North Umpqua Hydroelectric Project.

Generally the condition of the Umpqua National Forest is in a natural appearing condition within scenic viewsheds, with the exception of forest fire areas that have occurred in the past five years. There are a few locations where human use has impacted scenic resources, such as the Bunker Hill area of the Lemolo Lake Recreation Area. The vegetative conditions of the conifers within the Diamond Lake and Lemolo Lake Recreation Areas are deteriorating due to insects and disease and down woody debris and have the potential to create deficits in the scenic conditions of those areas.

Amendments

No amendments are recommended at this time.

Recommendations

- Complete the Vegetative Management Plans for the Lemolo Lake and Diamond Lake Recreation Areas.
- Continue monitoring effects of the Diamond Lake Restoration Project implementation on visual quality for the Diamond Lake Recreation Area.
- Because of the heavily dissected terrain of the Forest and the complexity of viewing, consider completing an electronic "Seen Area" analysis using Geographic Information Systems to more accurately map and validate the visual mapping used in the Forest Plan for all sensitivity level one and two travel ways, use areas and water bodies.

Wild and Scenic Rivers

What monitoring did we do in 2004-2005?

From May to September, river use is monitored 5 days per week through a Memorandum Of Understanding (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.

Consultation occurred with Oregon State Parks (permitting agency), in coordination with the Roseburg District of the Bureau of Land Management, on effects on scenic quality of a proposed private timber land harvest as described under the Visual Resources monitoring element.

What did we learn in 2004-2005?

At present, we have the results of monitoring for the FY 04 season only. Actual use records for 2005 were due from the permittee October 31, 2005 and were not available at the time this report was prepared. Private boater use was up by 25% while commercial use decreased by 11%. Perception of crowding remained the same as in 2003. The Boulder Flat put-in exceeded capacity 16 days during the boating season. Overall campground use throughout the Wild and Scenic River corridor was down considerably for the year (Table 6).

Table 6. Annual Comparison of Reported Commercial and Adjusted Use.

Year	Noncommercial Adjusted Use	Commercial Reported Use	Total Adjusted Use
1996	3,998	2,122	6,120
1997	4,702	1,994	6,696
1998	4,647	2,008	6,655
1999	4,502	1,905	6,407
2000	4,236	2,019	6,255
2001	3,378	1,704	5,082
2002	3,354	2,102	5,601
2003	3,614	2,384	5,998
2004	4,511	2,125	6,636

Craft and Boat Launch Use: Data were queried to show the types of watercrafts used to float the river. During the 2004 boating season, inflatable kayaks outnumbered other crafts on the river (See Table 7).

Table 7. 2004 Comparison of Watercrafts Observed per Month.

Month	Raft	Hard Kayak	Inflatable Kayak	Canoe
May	78	39	20	1
June	194	183	228	21
July	237	192	305	2
August	141	86	230	5
September	7	25	63	7
Total	**657**	**525**	**846**	**36**

The data were queried to show a breakdown of the put-in areas and take-out areas. Boulder Flat was the most heavily used put-in area (1,984 user days). The most frequent take-out area was Gravel Bin (2,789 user days). Beginning on July 15, use between Gravel Bin and Bogus Creek was restricted on a voluntary basis to help prevent conflict between boaters and anglers (for information, see the Wild and Scenic River Management Plan).

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 2004-2005?

Boulder Creek and Mt. Thielsen Wildernesses: One patrol was conducted in the Boulder Creek Wilderness and 4 into the Mt. Thielsen Wilderness.

Rogue Umpqua Divide Wilderness: Voluntary registration forms are collected at Beaver Swamp, Fish Lake, Skimmerhorn, and Abbott Butte Trailheads. In 2004, there were thirty wilderness patrols; in 2005, twenty-two wilderness patrols. In 2005, noxious weed surveys were conducted on trails leading into Fish, Cliff, and Buckeye Lakes, the three lakeshores, and trails in the Fish Lake/Rocky Ridge, and Grasshopper 2002 wildfires.

What did we learn in 2004-2005?

Boulder Creek and Mt. Thielsen Wilderness: Overall use remains low in the Boulder Creek Wilderness and Mt. Thielsen Wilderness. Higher use is associated with the Pacific Crest Trail (PCT) trail and trails 1456 and 1459. No incidents of unauthorized use were discovered or reported.

Rogue-Umpqua Divide Wilderness: Use levels and patterns are stable, with some decline of use on Fish Lake Trail 1570, perhaps due to the effects of the 2002 wildfires.

Over 40 bags of garbage, plastic, rafts, inner tubes, and related items were packed out on pack frames. Three Incident Reports were filed for failure to remove garbage.

Encounters: The Primitive standard is to encounter less than seven other parties on trails. During 2005, this standard was met during patrols.

Group Size: The party size was exceeded at least three times by over-sized groups to the Fish, Cliff, and Buckeye Lakes areas. None of the groups were given prior permission.

Campsite Location: About 95% of campsites near lakes exceed the 200 feet from water and trails standard.

Campsite Density: The Primitive standard is an 80% probability of one or less campsites audible or visible within 500 feet. Patrols in the Lakes areas met this standard.

Livestock: No violations noted.

Waivers: None.

Coordination Meetings: None.

A total of 140 Voluntary Registration forms were filled out at the following trailheads:

- Abbott Butte TH – 29;
- Fish Lake TH – 15;
- Skimmerhorn TH – 44;
- Beaver Swamp TH – 52.

Other: It is an ongoing challenge to keep people off of the rehabilitated campsite at Fish Lake. Noxious weed surveys were performed on the trails into Fish, Cliff, and Buckeye Lakes, and along the lakeshores and trails burned in the 2002 wildfires.

Amendments

No amendments are recommended at this time.

Recommendations

- In the Rogue-Umpqua Divide Wilderness, Forest orders need to be considered for continued problems: lakeshore campsite set-backs, over-sized groups, use of wagons and carts, restoration site closure, and caching of personal property.

Wildlife, Plants and Threatened and Endangered Species

Resource Element - Sensitive Plants

Umpqua National Forest Plan Chapter V – 18, Table V-1; CT1/NFWF16 – Sensitive Plants and Animals

Umpqua kalmiopsis

What monitoring did we do in 2004-2005?

Umpqua kalmiopsis (*Kalmiopsis fragrans*) occurs only on the Umpqua National Forest. Roughly a third of all known populations burned in wildfires between 1996 and 2002. Through a challenge cost share agreement with the Oregon Department of Agriculture's Native Plant Conservation Program, fire recovery of kalmiopsis was monitored. The Oregon Department of Agriculture maintains raw data in their Corvallis office. The monitoring reports are available at the Umpqua National Forest Supervisor's office.

What did we learn in 2004-2005?

Umpqua kalmiopsis is recovering from the fire through resprouting of burned plants. It is not possible to determine the amount of fire-related mortality because plants that burned hot enough to be killed have no identifiable parts. No seedlings or juvenile plants were observed during either year. Percent cover of burned plants increased slightly from 2004-05 while unburned plants showed no change. After a recovery period, flowers may be more abundant on burned plants. Extensive herbivory was noted at one site. Seed viability and germination trials are ongoing.

Recommendations

- The high fuel loading caused by mortality of knobcone pine at the Dry Creek site should be reduced. Fire recovery monitoring should continue until the rate of recovery can be determined. Habitat improvement potential including canopy cover requirements, fuels reduction, and herbivory should be determined through subsequent monitoring.

Umpqua mariposa lily

What monitoring did we do in 2004-2005?

The entire global distribution of Umpqua mariposa lily (*Calochortus umpquaensis*) is confined to serpentine soils in southern Douglas County. A Conservation Strategy for this species was completed and signed in 1995. A Conservation Agreement with US Fish & Wildlife Service, along with Roseburg and Medford Districts of the BLM was signed in 1997. Population trend monitoring was initiated in 1993 in a cooperative effort with the Oregon Natural Heritage Program and has been repeated annually since. Habitat improvement through prescribed burning as recommended in the Conservation Strategy was applied to 25 acres of one population in 2002. Population trend was monitored in both treated and untreated sites in 2003. Data and analysis is maintained at the Supervisor's Office with copies at the Tiller Ranger District.

What did we learn in 2004-2005?

The overall population trend for Umpqua mariposa lily is down slightly from high years in 1998 and 2000, but still at about the overall population size in 1993 (Figure 4). Flowering success is improved over the 1993-95 period, but down from the peak years. In 2002, understory thinning and prescribed fire was applied to 25 acres of the Drew population. The intention of this project was to improve habitat conditions by returning more of the meadow to the open condition that Umpqua mariposa lily requires.

The first three years of post-treatment monitoring indicates that Umpqua mariposa lily responded positively to all treatments, although the plots that were both thinned and burned have increased less than the controls (Table 8). The plots that were either burned alone or thinned alone both increased by almost 300% over the previous decade's average. However, populations in this meadow had been exhibiting an upward population trend for the previous three years in the absence of habitat alteration. Additional years of monitoring will be needed to clarify the affect of the treatments although the early numbers are encouraging. Total numbers of plants in the treatment plots are lower than the controls presumably due to competition (which was the target of the thinning and burning).

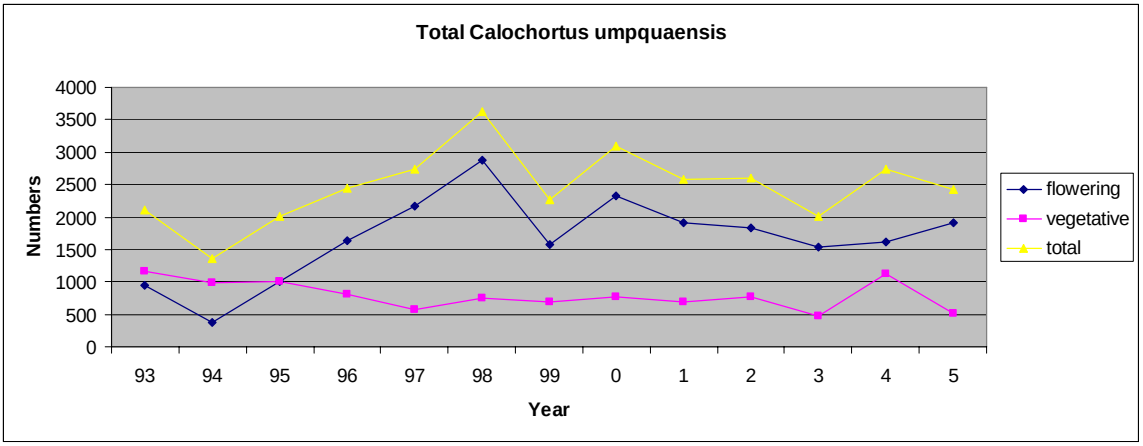


Figure 4. Population trend of Umpqua mariposa lily, 1993-2005.

Table 8. Umpqua mariposa lily population average, comparison of treatment vs. control plots.

Treatment	Mean 93-02	Mean 03-05	Change
Control	76.5	97.2	27.0%
Thinned & burned	21.3	25.6	20.1%
Thinned but not burned	3.1	9.0	194.5%
Burned but not thinned	3.1	9.0	194.5%
Average of all treatments	13.4	21.5	60.0%

Recommendations

- Current management and monitoring should continue as is. Future management of Umpqua mariposa lily habitat areas should be guided by results of continued monitoring. Treatments should be expanded to additional areas if monitoring continues to indicate a positive response.

Clustered lady-slipper

What monitoring did we do in 2004-2005?

There is only one population of Clustered lady-slipper (*Cypripedium fasciculatum*) on the Umpqua National Forest. It occurs in a campground along the North Umpqua River where it is subject to disturbance from campers. A gate was constructed in 1998 to restrict use of the campground during the late winter and early spring when the plant is reproducing. An effort to monitor damage to individual plants was initiated in 1993. This monitoring effort continued with modifications until 1999 due to budget constraints and dissatisfaction with the study design. A new, simplified design to evaluate plant population trend was initiated in 2003. Data and analysis is maintained at the Supervisor's Office with copies at the North Umpqua Ranger District.

What did we learn in 2004-2005?

Clustered lady-slipper has exhibited a relatively stable total population size during the sampling period of 1993-2005 (Table 9). However, these data display a dramatic shift from a relatively equal percentage of flowering, non-flowering, and juvenile (small) life forms during the 1993-94 period to a population that is dominated by small, non-reproductive plants during the 2003-2005 time period. Individual plants have emerged from nearly the exact same location over this entire period suggesting that even the small plants that have been called juveniles may actually be quite old plants. The cause of the decline in reproductive effort is likely the result of either recreation damage or competition (or the combination). There has been little obvious damage from recreationists observed since 1998 when the gate went in suggesting that competing vegetation may be the primary factor. This is consistent with observed habitat relationships with this and other species of lady-slipper.

Table 9. Population trend of clustered lady-slipper.

Year	# flowering	# non-reproductive	# juvenile	total
1993	39	30	42	111
1994	46	33	50	129
1995-2002	Data not available			
2003	15	14	107	136
2004	9	8	78	95
2005	12	5	89	106

Recommendations

- Habitat improvement potential should be investigated.

Umpqua swertia

What monitoring did we do in 2004-2005?

Umpqua swertia (*Frasera umpquaensis*) occurs at scattered locations throughout Southwest Oregon and Northern California with the largest concentrations of this plant along the Rogue-Umpqua Divide. A multi-agency Conservation Strategy for this species was signed in 1993 and population trend monitoring was initiated in 1995 and has been repeated annually since. One of the sampling sites was not accessible in 2002 due to a wildfire in the vicinity and none of the plots were sampled in 2003 because of a personnel shortage. Data and analysis is maintained at the Supervisor's Office with copies at the Tiller Ranger District.

What did we learn in 2004-2005?

The population levels for 2004-05 are similar to the nine year mean of 191.6 (SD= 61.6). The incomplete data from 2002-2003 is not included within this mean. FY 2004 was slightly above the mean while 2005 was slightly below (Figure 5). The biannual flowering periodicity is repeated during this period although the 2005 flowering effort was slightly reduced from previous year's flowering peaks. The overall population trend and reproductive effort appears to be flat with considerable annual variation.

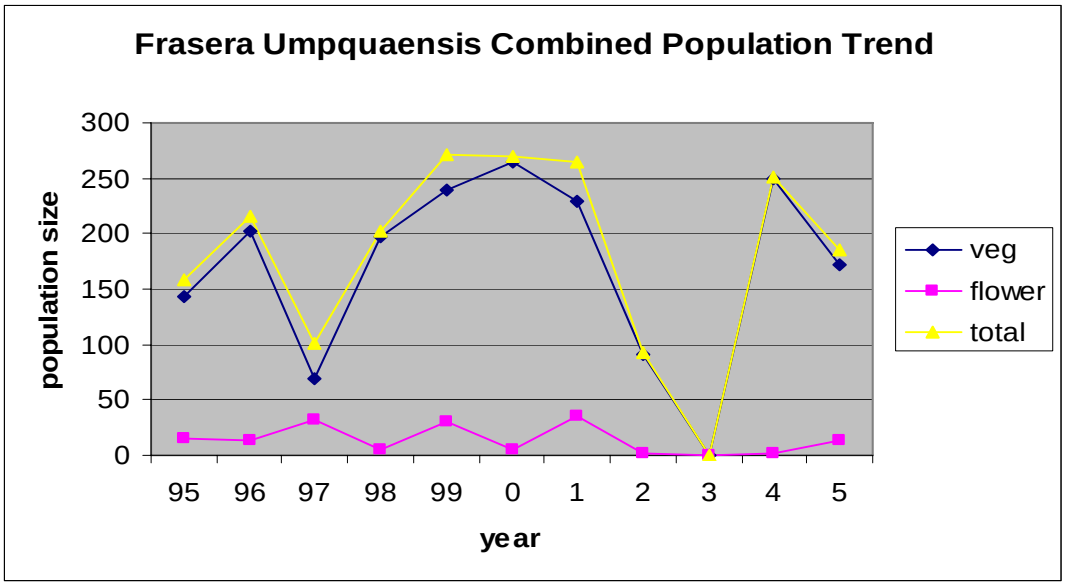


Figure 5. Population trend of Umpqua swertia, 1995-2005. Only half of the plots were sampled in 2002 and no plots were sampled in 2003.

Recommendations

- The multi-agency Conservation Strategy expired in 2002 and it should be renewed. The Umpqua National Forest is the identified lead agency for this strategy. The Rogue River, Siskiyou, and Willamette National Forests along with the Medford and Eugene Districts of the BLM also participated in the original strategy. Monitoring results from 1995-2005 should be reviewed by the participating agencies to see if the monitoring objective and design is still pertinent to the renewed Conservation Strategy.

Tall bugbane

What monitoring did we do in 2004-2005?

Tall bugbane (*Cimicifuga elata*) occurs sporadically from British Columbia south to Oregon. A multi-agency Conservation Strategy for this species was signed in 1996. Population trend monitoring plots for this species were established on the Umpqua NF in 1998 and have been repeated annually since. Data and analysis is maintained at the Supervisor's Office with copies at the Tiller Ranger District.

What did we learn in 2004-2005?

Tall bugbane exhibited a very stable population trend until 2002 when it dropped by 36% from the previous four-year average (Figure 6). The population trend over the most recent four-year average is about 20% below the first four-year average. There was no obvious alteration of the habitat to explain the drop years. Flowering percent has been reasonably constant over all years (although not necessarily at all plots). Tracking of individual plants within subplots demonstrate that even during the stable population years there is a surprisingly high percentage of plants that come up in different areas in different years. Since this is a perennial plant, this variation suggests that individual plants may remain dormant in some years. This may be related to flowering effort the previous year.

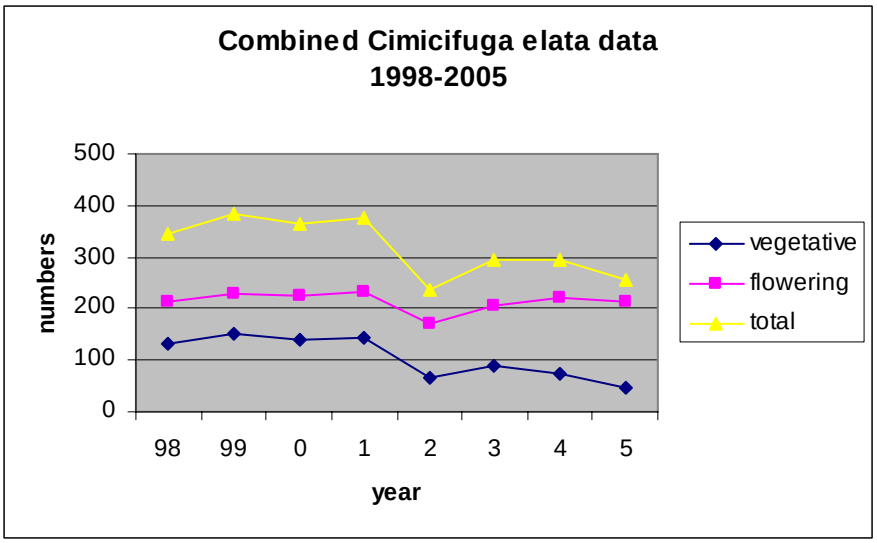


Figure 6. Population Trend of tall bugbane between 1998 and 2005.

Recommendations

- Current management and monitoring should continue as is. If monitoring continues to exhibit a decline in the population, the monitoring objective should be reconsidered to establish the cause of the decline.

Adder's tongue

What monitoring did we do in 2004-2005?

Adder's tongue (*Ophioglossum pusilum*) is known from nine sites in Oregon including one on the Diamond Lake Ranger District in a very small, wet meadow. The Conservation Strategy for this species was signed in 1996 and photo monitoring stations were established the same year to monitor changes in meadow vegetation. Photo monitoring was completed in 2003. Photos are maintained at the Diamond Lake Ranger District with copies at the Supervisor's Office.

What did we learn in 2004-2005?

Photo monitoring suggests that the habitat has not substantially changed since 1996 with the exception of several windthrown trees that fell across the wetland from a winter storm in 1996. The fallen trees across the meadow are still elevated above the ground so they have yet to reduce the amount of available habitat. There appears to be a slight increase in Douglas' spiraea but vegetation cover is still approximately the same as in 1996. The population size of adder's tongue is not monitored, but still numbers in the thousands.

Recommendations

- Current management and monitoring should continue as is. Pilot propagation and transplant experiments were initiated in 2002. Potential for expanding the population should be investigated.

Amendments

No Forest Plan amendments/revisions are identified for any sensitive plant species at this time.

Resource Element - Wildlife

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 2004?

No funding was provided for monitoring in 2004. However, protocol surveys were conducted for one project to determine spotted owl occupancy.

What did we learn in 2004?

One small project on the Tiller Ranger District was surveyed in 2004, with no spotted owl responses.

What monitoring did we do in 2005?

The first of a five-year monitoring study was conducted in Late Successional Reserve (LSR) on the Tiller Ranger District. In 2002, wildfires burned approximately 65,000 acres on the district. These fires included parts of LSR 222, which is one of the largest LSR's in the Northwest, spanning from the Willamette NF to the southern half of the Umpqua NF. Plans have been made to commercially thin some stands, pre-commercial thin plantations and reduce fuels within the LSR. The U.S. Fish and Wildlife Service (USFWS) proposed surveying for northern spotted owls within this planning area before and after project implementation to determine effects of these activities on the spotted owl. This study is being funded by USFWS. As identified in the scope of work, results of this monitoring study may be published.

As described in the scope of work from USFWS: "Surveys will be conducted for northern spotted owls using the NSO Demographics Protocol (Franklin et. al. 1996) on the Tiller Ranger District, Umpqua National Forest. These surveys will occur throughout forest stands classified as nesting, roosting, or foraging habitat (including those burned in 2002) near proposed treatment units in the Boulder-Dumont (B-D) thinning and fuel-reduction project area and in a suitable control plot. The specific habitat patches to survey are those within 1.2 miles of the proposed commercial thinning treatment units and all nesting, roosting, foraging habitat in the control area."

Routes and survey stations were identified and mapped. Historical sites and all other suitable habitat were surveyed to protocol as described in the scope of work.

Weather

The 2005 season was characterized by cool, wet weather well into the summer. Protocol allowed for a daytime walk-through of historical owl sites. Although most of the sites had not been surveyed since the early 1990's, Forest personnel attempted to locate birds in several historic owl cores that had not been altered by the 2002 fires. Weather may have contributed to the lack of success in these early surveys as wind, rain, and even snow fell during these surveys, even though the sun was out when the surveys began.

Results

Nighttime owl responses were inconsistent early in the survey period. Responses from spotted owls began to increase in June and July. Daytime follow-ups became especially frustrating as birds heard the previous night were unresponsive.

Barred owls (*Strix varia*) were found at three sites. The Forest did not investigate these locations in daytime follow-ups, but two pairs remained in the same vicinity throughout the spring and

mid-summer. It is likely that the barred owl population has increased in number since they first appeared in the mid 1980's (Lint 2005). In subsequent seasons it may be prudent to try to locate these birds in daylight and evaluate their nest sites. Comparisons with spotted owl nest sites may prove useful.

Responses from barred owls have noticeably increased since surveys were last conducted in the early 1990's. This increase in barred owl responses may partially explain the decrease in spotted owl responses. Surveys in subsequent years may help determine the population trend of the barred owl within the study area.

What did we learn in 2005?

Three pairs of spotted owls and seven single male spotted owls were identified during the surveys. Many of these responses were associated with historic sites. Daytime visits to these areas should be conducted as soon as possible in 2006.

Recommendations

For the LSR survey:

- Conduct daytime walk-throughs of known and historical sites early in the season during periods of stable weather.
- Mark calling stations with permanent tags on trees or signposts, as flagging is a temporary marker for these stations.
- Re-number calling stations to reflect the name of the route and number from lowest elevation to highest or up the drainage. Example: the lowest station on the Pinnacle Creek route would be PC-01. The highest would be (example) PC-12. These will be easier for surveyors to locate.
- Hire or contract for a "night-crew" to do night calling and leave the daytime follow-ups for the Forest Service biologists. This would insure an early start to the daytime follow-ups, which could contribute to an increased success rate.
- Continue to include field notes with survey forms. These often capture the bird's behavior and the general "feel" for what was observed better than field form codes.
- Try to locate barred owl nest sites in order to compare site characteristics with spotted owl nest sites.

In addition, 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 signed in 1990, the northern spotted owl had not yet been listed under the Endangered Species Act. Monitoring as described in the LRMP is not up-to-date with current management techniques.

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 2004-2005?

Oregon Department of Fish and Wildlife (ODFW) is conducting a study on elk recruitment, nutrition, and predation as part of an ODFW grant. There are two project areas associated with this grant, both with the same objectives. The project areas are located in two different parts of

the state, one in northeast Oregon and one in southwest Oregon. The location of this work for southwest Oregon is on the North Umpqua and Diamond Lake Ranger Districts. The overall goal of the grant is to determine the impacts of nutrition (cow elk body condition) and predation on calf elk recruitment. The study is designed to examine a range of elk nutritional levels, habitat conditions, and predator densities.

What did we learn in 2004-05?

Data collection for this elk study is not yet complete. 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 at 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 an increase in the number of animals. This in turn resulted in an increase in hunting pressure with no associated reduction in tags. There is probably an overall lower population trend for deer and elk when these factors are taken into consideration.

Part of ODFW's Dixon Wildlife Management Unit (WMU) is located on the forest. The wildlife analysis for the Wapiti planning area addresses elk numbers within this WMU. Population estimates for elk in this WMU peaked at 4,000 in the mid-1990's, consistent with western Oregon trends, and have since declined to about 2,200. Telemetry data collected by ODFW was used to map elk habitat suitability on approximately 680,000 acres of the forest. This habitat suitability model will be useful in future data analysis and planning efforts.

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.

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.

What monitoring did we do in 2004-2005?

The 2004 season was the fourth of five planned annual surveys involving aerial track searches and limited helicopter landings in and around the Sky Lakes and Mt. Thielsen Wilderness Areas,

and Crater Lake National Park. The purpose of these surveys is to detect and document the presence of wolverines (*Gulo gulo*) in the southern Oregon Cascades.

A total of 18 reconnaissance flights were conducted on five separate days (Table 10). Seven flights were conducted over the Sky Lakes Wilderness Area and the southern half of Crater Lake National Park, and 11 over the Mt. Thielsen Wilderness Area and the northern half of Crater Lake National Park. Total flight time was 21 hours and three minutes, the most intensive survey effort in a single season since overflights began in 2001. In addition, this is the first time surveys were conducted over Crater Lake National Park (CRLA). Survey areas for the Mt. Thielsen (MT) and Sky Lakes (SL) Wilderness Areas remained the same.

Table 10. Summary of flight time and time over wilderness areas*.

Date	Survey Area	Flights	Total Flight Time	Time Over Wilderness	Wilderness Landings	Date
10 Mar 04	MT, CRLA	3	2 hr 53 min	1 hr 44 min	none	10 Mar 04
29 Mar 04	SL, CRLA	4	5 hr 0 min	3 hr 21 min	none	29 Mar 04
01 Apr 04	MT, CRLA	4	4 hr 7 min	3 hr 9 min	none	01 Apr 04
22 Apr 04	SL, CRLA	3	4 hr 11 min	2 hr 57 min	none	22 Apr 04
23 Apr 04	MT, CRLA	4	4 hr 52 min	3 hr 55 min	none	23 Apr 04

* including Crater Lake National Park

Table 11 shows the total wolverine surveys for all years conducted.

Table 11. Summary of wolverine survey flights for all years.

Year	Flight Days	No. of Flights	Total Flight Time	Time Over Wilderness	Wilderness Landings
2001	2	6	8 hr 25 min	5 hr 29 min	none
2002	3	10	10 hr 54 min	7 hr 42 min	1
2003	5	12	16 hr 46 min	12 hr 6 min	2
2004	5	18	21 hr 3 min	15 hr 6 min *	none

* including Crater Lake National Park

What did we learn in 2004[6]?

Wolverines were not detected in 2004. However, tracks that could have been made by a wolverine were seen on at least three occasions. Survey team members were unable to make any verification landings due to the lack of safe landing sites in the places where such tracks were seen. These locations were recorded using GPS for easy location during future flights. Images of the tracks were recorded on videotape.

Tracks and trails were suspected by observers to be those of mustelids such as fisher (*Martes pennanti*), American marten (*Martes americana*), or weasels (*Mustela sp*.) and were frequently seen during all flights. As there were no landings these tracks could not be measured. 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. Other tracks seen from the air were likely those of porcupines (*Erethizon dorsatum*), elk (*Cervus sp*.), or lagomorphs such as rabbits (*Sylvilagus sp*.) and hares (*Lepus sp*.) based on their track patterns.

[6] The source of this information is the 2004 annual wolverine report that was authored by Ric Schlexer.

No tracks of human origin were seen in either wilderness area during any flight, nor did the helicopter fly over any recreationists. Ski and snowmobile tracks were observed from the air in CRLA and on Pelican Butte.

For the 2004 survey season, critical changes were made as recommended by the survey team in last year's report. The Supplemental Information Report to the Environmental Assessment was amended to increase the number of landings from two to four per wilderness area. Unfortunately, survey personnel were unable to take advantage of the increase during the 2004 season due to the inaccessibility of safe landing areas; this information will be supportive for future seasons.

Also, the Project Aviation Safety Plan was changed to allow survey flights over Crater Lake National Park (CRLA), with some restrictions. The team felt it was important to survey the Park, because it could potentially provide a corridor for wolverine movement between the two National Forest wilderness areas.

Despite these changes, survey personnel have not been able to document the presence of wolverines within the survey area even though potential wolverine tracks have been seen. Causes of this failure are possibly due to wolverine life history and ecology. The wolverine is wide-ranging and secretive, and occurs in low densities across its entire range in North America (Banci 1994). Wolverines in the contiguous United States are usually found in remote, high-elevation mountain basins and cirques, particularly during breeding season (Magoun and Copeland 1998), rendering population surveys difficult. Consequently, the wolverine is rarely observed, even where it is intensively studied (Copeland 1996).

However, recent developments in wolverine demography and habitat modeling indicate that the Oregon Cascades remain an area of high-quality core habitat for wolverines. A study of habitat types in the Klamath Basin of Oregon found that source habitat for wolverines in this area has increased 14% since historical periods (Marcot et al. 1997). Wolverine probability of occurrence modeling has determined that 11,200 square km of high-quality habitat exists in the Oregon Cascades – an area comparable in size to wolverine habitat in central Idaho or the northern Continental Divide (Carroll et al. 2001a). In addition, Carroll et al. (2001b) suggested the availability of wolverine habitat in the Oregon Cascades from modeling based on road density, precipitation, human population density, and cirque habitat availability.

Evaluation of multiple landscape models for wolverines has demonstrated a strong correlation between predicted and observed counts of wolverines at both the sub-basin and watershed level (Rowland et al. 2003). The number of documented wolverine sightings in Oregon continues to increase – an adult wolverine was killed on Interstate 84 near The Dalles in 2003 (K. Aubry, pers. comm.). The survey team feels that continued efforts to detect wolverines in Oregon are therefore worthwhile, and the locations where suspected wolverine tracks were seen this year should be searched again when funding becomes available.

Two changes to the survey program are recommended that will increase the efficiency of search for wolverines. First, the habitat model used to map potential wolverine denning habitat in the survey area (Hart et al. 1997) should be re-evaluated and changed as needed to reflect the most current research available (Carroll et al. 2001a, b; Rowland et al. 2003). The Forest also supports an initiative to extend the survey area northward, to more completely cover areas of predicted wolverine habitat (Carroll et al. 2001a, b).

Finally, mention must be made of the outstanding safety record compiled by the survey team over the last four years. There were no aviation accidents, either in the air or on the ground. Interactions between the survey team, helicopter pilots, flight-following personnel (both Forest Service and CRLA), and ground crews are running smoothly. During wilderness landings, team members safely made over-snow excursions on foot to measure tracks. Peregrine falcons and

bald eagles have been avoided in the air when seen, and their nesting areas have been undisturbed. The Forest acknowledges this commendable effort.

What did we learn in 2005?

No monitoring was done in 2005. No funding was provided.

Recommendations

- Reinvestigate the locations of suspected wolverine tracks from the 2004 surveys, and attempt to land and measure tracks seen.
- Evaluate the existing wolverine denning habitat model, update with current research where appropriate, and produce new survey maps.
- Retain the existing Project Aviation Safety Plan "as is", but investigate options which would allow additional surveys to be conducted in the central Oregon Cascades, north of the current survey area.
- Encourage outreach and public participation by constructing a wolverine survey website and posting it on Forest Service public web pages. This should include plans for future surveys, previous years' reports, comparisons with, and results of, other wolverine surveys in Oregon, links to general information about wolverines, and other pertinent information.
- Increase efforts to seek additional funding from FS and non-FS cooperators.
- Maximize the number of flights attempted during the survey season (weather permitting), with the goal of increasing flight time over previous years.
- 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

What monitoring did we do in 2004-05?

No NFIM dollars were available in FY2004 or FY2005 to conduct any monitoring associated with this resource element. NFWF funds were used in 2004 and 2005 for monitoring.

Townsend's bats are monitored at three sites on the Forest. Two of the three sites were monitored in 2004 and 2005.

What did we learn in 2004-05?

The two sites that were monitored continued to be occupied, with higher exit counts in 2005 compared to 2004. Tables 12 and 13 show the exit counts for Townsend's bat for 2004 and 2005.

Table 12. Exit counts for Townsend's bats for 2004.

TOWNSEND'S BAT EXIT COUNT -2004		
Sites	**District**	**Number of bats**
Site 1	Tiller	Not monitored

TOWNSEND'S BAT EXIT COUNT -2004		
Sites	**District**	**Number of bats**
Site 2	Diamond Lake	26
Site 3	North Umpqua	366

Table 13. Exit counts for Townsend's bats for 2005.

TOWNSEND'S BAT EXIT COUNT -2005		
Sites	**District**	**Number of bats**
Site 1	Tiller	Not monitored
Site 2	Diamond Lake	32
Site 3	North Umpqua	505

A Forest-wide cave management plan has been drafted that allows sites to be protected, resulting in the opportunity for successful reproduction at these sites.

Recommendations

- 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.

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.

What monitoring did we do in 2004-05?

No NFIM dollars were available in FY2004 or FY2005 to conduct any monitoring associated with this resource element.

What did we learn in 2004-05?

No monitoring was conducted.

Recommendations

- Conduct surveys at ponds that have the potential for occupancy by western pond turtles when funding allows. 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.
- An inventory of a known western pond turtle population was conducted on the Diamond Lake RD in 2003 utilizing standard survey protocols. Continued monitoring will be necessary to determine if this population is stable, declining or increasing.

Resource Element - Bald Eagle Monitoring

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

What monitoring did we do in 2004-05?

No NFIM dollars were available in 2004 or 2005 to conduct any monitoring associated with this resource element. NFWF dollars were used to monitor bald eagles. Tables 14 and 15 display the results for eagle monitoring in 2004 and 2005.

Table 14. Bald Eagle Monitoring for FY 2004.

BALD EAGLE 2004		
Site Number	**Status**	**Young**
1	PAIR	1
2	PAIR	1
3	PAIR	1
4	ADULT, UNKNOWN	NO

Table 15. Bald Eagle Monitoring for FY 2005.

BALD EAGLE 2005*		
Site Number	**Status**	**Young**
1	PAIR	YES
2	PAIR	YES
3	PAIR	YES
4	PAIR	NO

*At least one nestling observed; total number of young was not determined.

What did we learn in 2004-05?

All four known sites were occupied by eagles in 2004 and 2005. Three of the four sites fledged one young in 2004 and had at least one nestling in 2005. The fourth site has not reproduced successfully since 2003.

A lake on the Tiller Ranger District was surveyed in the summer of 2004. An adult bald eagle was seen, but it is unknown whether or not this site could support a pair of eagles.

Recommendations

- Continue to monitor all known sites annually.
- Continue to monitor the lake on the Tiller Ranger District to determine status.
- Monitor river corridors where adult bald eagles have been seen to determine occupancy and reproductive status. Sightings of bald eagles have been increasing steadily along the North Umpqua River and at least one pair is suspected to be nesting somewhere along the river corridor. Sightings along the South Umpqua River have also increased.

Peregrine Falcon Monitoring

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

What monitoring did we do in 2004-05?

No NFIM dollars were available in 2004 or 2005 to conduct any monitoring associated with this resource element. NFWF dollars were used to monitor peregrine falcons.

In both 2004 and 2005, all eleven known sites and two suspected sites were surveyed. Surveys were conducted using the regional survey protocol, and results were forwarded to the regional peregrine falcon coordinator.

In 2005, three additional peregrine falcon sites (not associated with our monitoring) were discovered, bringing the forest total to 14 known peregrine falcon sites.

What did we learn in 2004-05?

Survey results indicate that peregrine falcons continue to occupy known sites, although reproduction can vary from year to year (Tables 16 and 17). The number of known falcon sites continues to increase. This may be a result of an overall increase in falcon numbers, an increased awareness and knowledge in identifying falcons by forest users, a broader definition of what constitutes suitable falcon habitat, or a combination of all of these factors.

The Umpqua National Forest is considered to be a source population for peregrine falcons, with young falcons on the Forest likely dispersing to other parts of the state. In addition, there are areas of suitable habitat on the Forest that have not been surveyed that could potentially support additional falcon pairs.

Table 16. Peregrine Falcon Monitoring for FY 2004.

PEREGRINE FALCON 2004		
OE Number *	**Status**	**Young**
002	PAIR	1
003	PAIR	Unknown
006	PAIR	3
033	PAIR	Unknown
055	PAIR	1
065	PAIR	3
069	PAIR	Unknown
072	PAIR	1
056	PAIR	3
064	PAIR	3
104	PAIR	2
Site A (suspected)	1 ADULT, 1 UNKNOWN	n/a
Site B (suspected)	TWO ADULTS	n/a

*Oregon Eyrie (OE) number is assigned by the regional peregrine falcon coordinator

Table 17. Peregrine Falcon Monitoring for FY 2005.

PEREGRINE FALCON 2005		
OE Number	**Status**	**Young**
002	PAIR	1
003	PAIR	2
006	PAIR	1
033	PAIR	Unknown
055	PAIR	1
065	PAIR	1
069	NONE OBSERVED	-
072	ADULT	Unknown
056	PAIR	2
064	PAIR	2

PEREGRINE FALCON 2005		
OE Number	**Status**	**Young**
104	PAIR	1
Site A (suspected)	Not surveyed	n/a
Site B (suspected)	None observed	n/a
Site C – New	PAIR	2
Site D – New	PAIR	1
Site E – New	PAIR	1

Recommendations

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

Pileated Woodpecker

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

What monitoring did we do in 2004-05?

No NFIM dollars were available in FY2004 or FY2005 to conduct any monitoring associated with this resource element. No monitoring was completed.

However, data collected from two Breeding Bird Survey (BBS) routes was used for wildlife analysis for the Wapiti Timber Sale planning area. One of the BBS routes includes a portion of the eastern margin of the planning area; the other route is located 6-7 miles west of the planning area. Analysis of this data collected from 1991-2004 indicates that populations of pileated woodpeckers are increasing, although this increase is not statistically significant.

Recommendations

- The 1994 ROD resulted in changes to vegetation management (less clearcutting) affecting late-successional habitat. This Monitoring Plan Resource Element should be re-evaluated by the Forest Wildlife Biologist.
- The model 'DECaid' is available for revision of this 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 2004-05?

No NFIM dollars were available in FY2004 or FY2005 to conduct any monitoring associated with this resource element. No monitoring was completed.

Recommendations

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

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 2004-05?

No NFIM dollars were available in FY2004 or FY2005 to conduct monitoring associated with this resource element. NFWF funds were used in 2004 and 2005 for landbird monitoring associated with the Apple Fire.

A Breeding Bird Survey (BBS) route was established within the area of the Apple Fire, with surveys conducted along a 21.7 mile route. This BBS route has been surveyed for three consecutive years, from 2003-2005.

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 provided snags and down wood that will not be removed, providing habitat for cavity nesters. Harvest prescriptions can and are being written to provide sufficient levels of snags and down wood for these species.

Results of three years of landbird monitoring within the Apple Fire have been compiled. Since 2003, a total of 63 different bird species have been detected within the Apple Fire planning area. Species richness has remained stable. In general, species that require late-successional forests are declining and those that use early-successional forests and snags are increasing.

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. The model DECaid is another tool available for revision of the standards and guidelines.

Appendix A - Attachments

1. Best Management Practice Tables
2. Temperature Graphs
3. Turbidity Flow Graphs

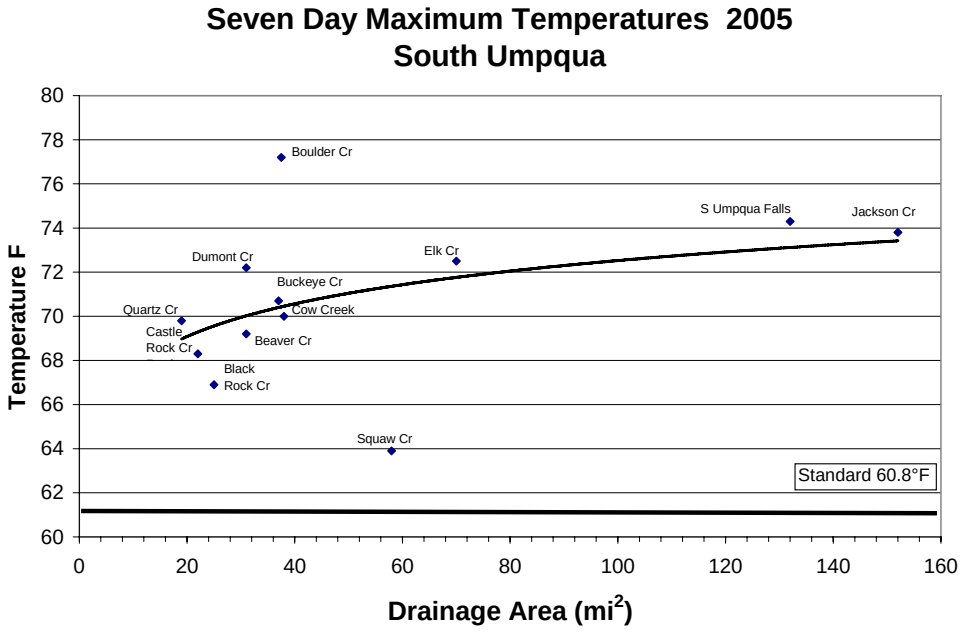
Fiscal Year 2004 BMP Checklists

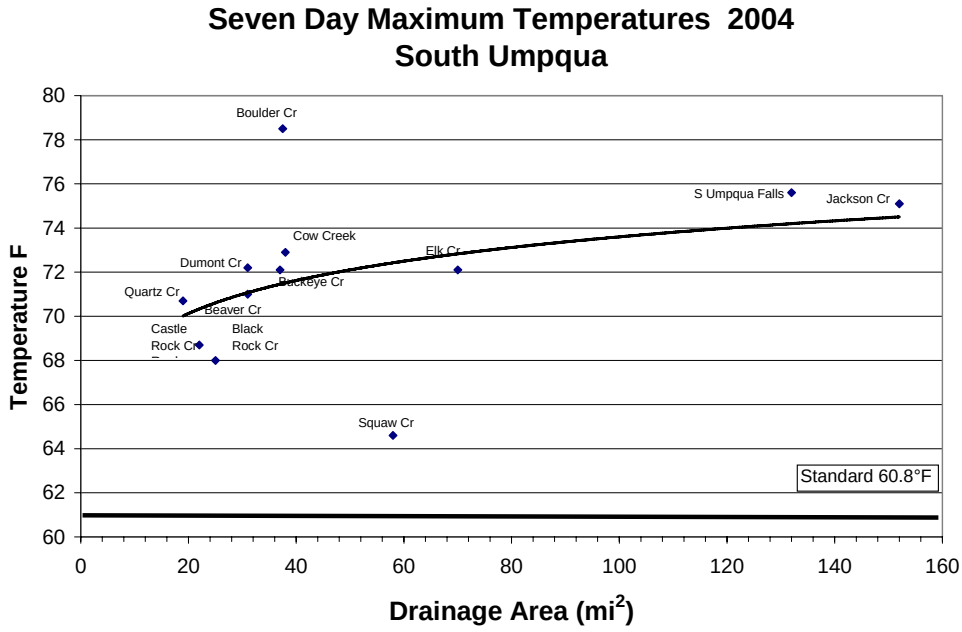
Ranger District	Environmental Documents signed For Ground-Disturbing Activities	Best Management Practice Checklists	Percent of Projects With BMP Checklists
Cottage Grove	3	0	0%
Tiller	6	2	33%
Diamond Lake	7	2	29%
North Umpqua	4	1	25%
Timber Planning Team	0	0	NA
Forest	**20**	**4**	**20%**

Fiscal Year 2005 BMP Checklists

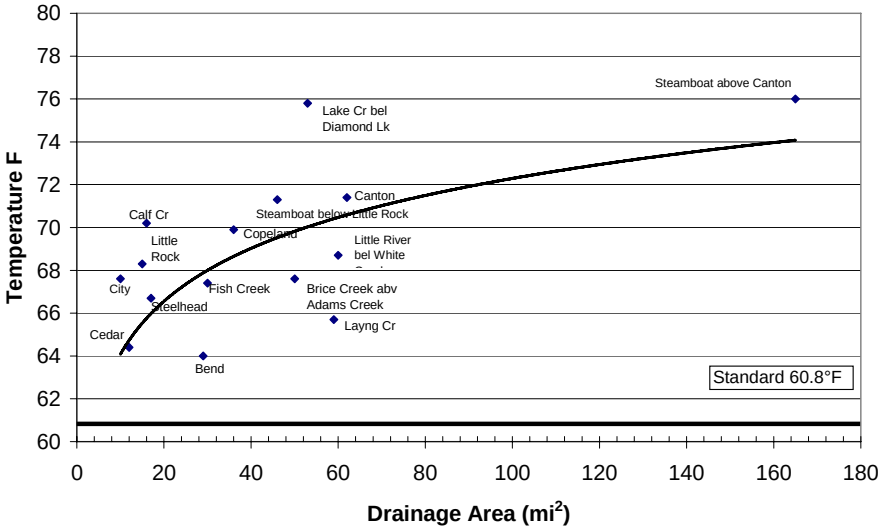
Ranger District	Environmental Documents signed For Ground-Disturbing Activities	Best Management Practice Checklists	Percent of Projects With BMP Checklists
Cottage Grove	4	0	0%
Tiller	8	1	12%
Diamond Lake	5	4	80%
North Umpqua	0	0	NA
Timber Planning Team	1	1	100%
Forest	**18**	**6**	**33%**

Temperature Graphs for the South Umpqua and North Umpqua Rivers

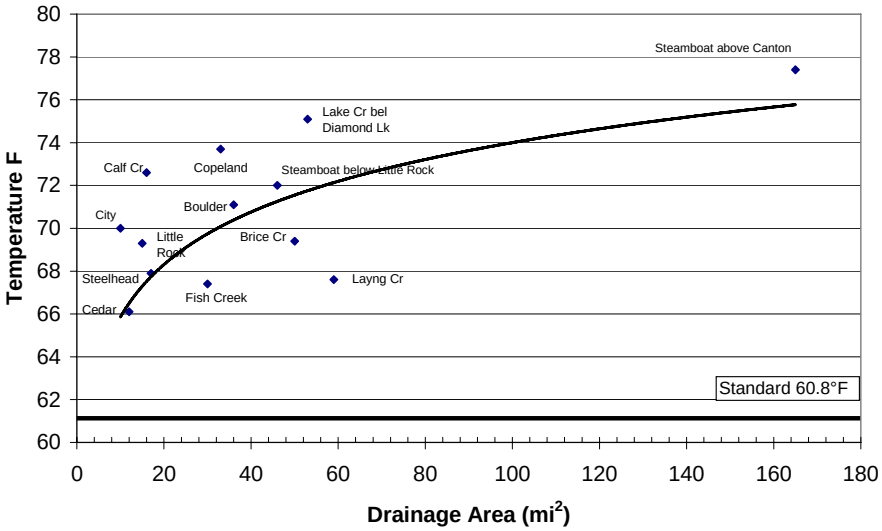




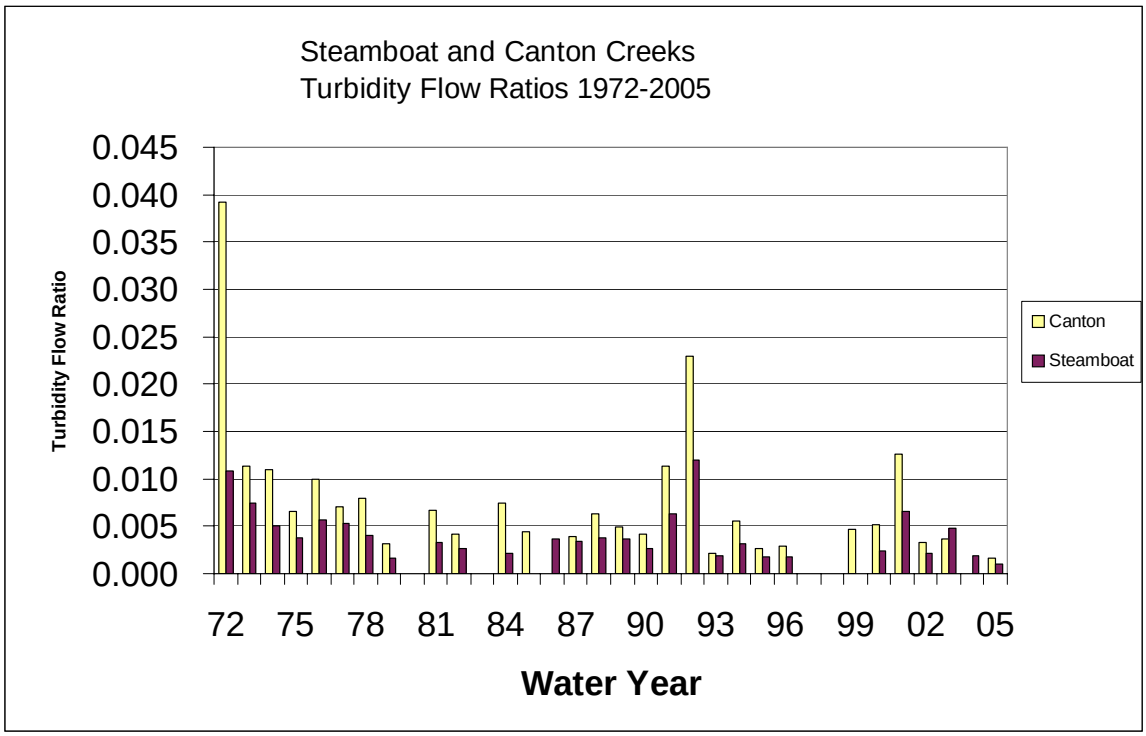
Seven Day Maximum Temperatures 2005
North Umpqua

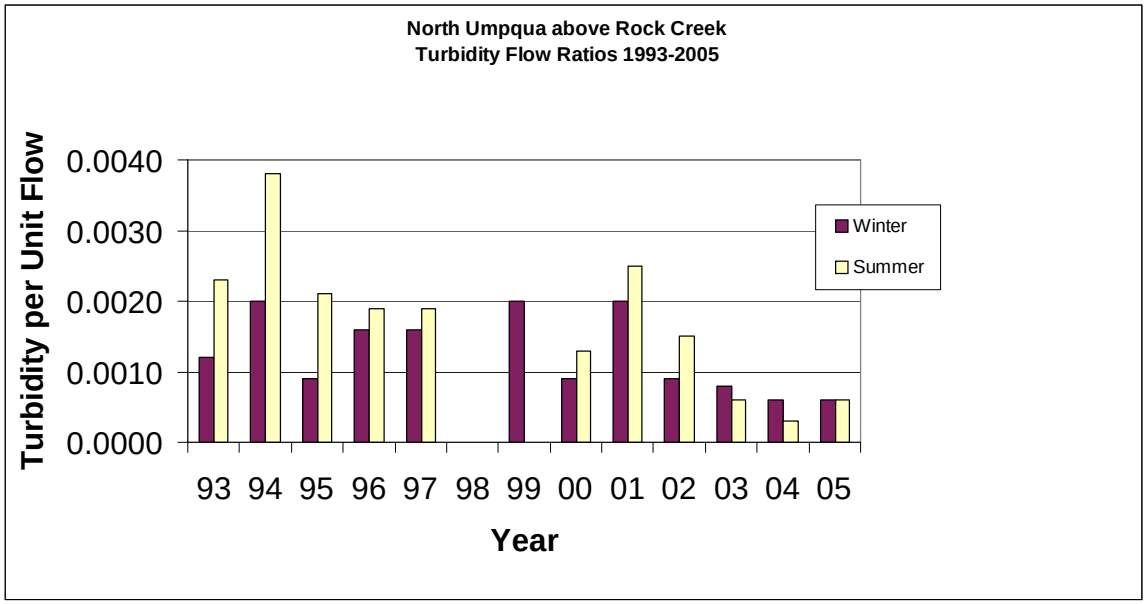


Seven Day Maximum Temperatures 2004
North Umpqua



Turbidity Flow Graphs for Steamboat and Canton Creeks, the North Umpqua above Rock Creek, and Layng Creek.





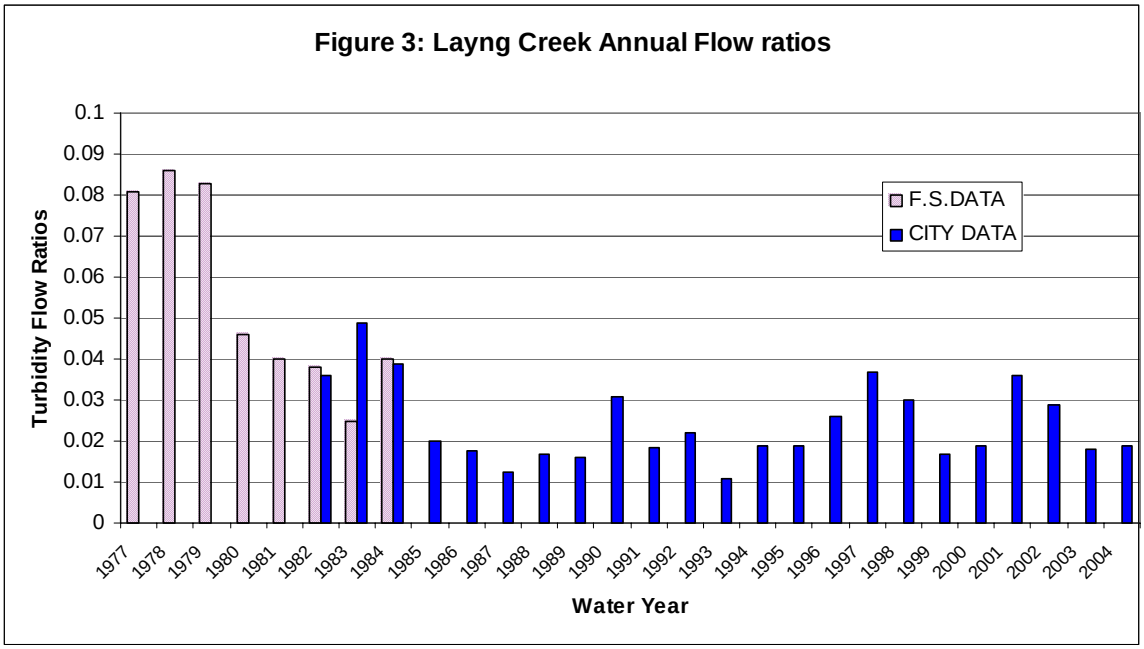


Figure 3: Layng Creek Annual Flow ratios
Turbidity Flow Ratios
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
F.S.DATA
CITY DATA
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
Water Year