FY 2007 Monitoring Report

Umpqua National Forest

Mt. Thielsen and Diamond Lake – photo courtesy and credit of the Diamond Lake Working Group.

June 2008

Dear Friends of the Umpqua National Forest:

Enclosed are the results of the fiscal year (FY) 2007 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: Greg Lesch, Planning and Products Staff, Umpqua National Forest, 2900 NW Stewart Parkway, Roseburg, OR 97471, 541-957-3457.

/s/ Clifford J. Dils

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Introduction

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

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

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

This monitoring report for Fiscal Year (FY) 2007 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: The Forest was directed to staff at 82.5% of the Most Efficient Level (MEL), although actual funding was equivalent to closer to 50% of MEL dollars. With this type of financing, the Forest expected to see 2,596 acres burned for a cost-plus-loss of $16.9 million. Based on actual events, the forest realized a suppression cost savings of $11,197,151.

The fire season on the Umpqua was below normal with a below average fire occurrence. Fire season was declared on June 16th and officially ended on October 1st for a total of 108 days, which is shorter than our average years by as much as 22 days. The UPF had a total of 54 fires for 21.6 acres.

Costs exceeded projections in FY07 because of the outdated NFMAS information. The budget expenditures exceeded the allocated amount due to personnel costs and accounting issues that were not reconciled in a timely manner, but the Forest over expenditures were covered by the Regional Office from Forests that had dollars available due to cost savings.

For FY07, the Forest accomplished 1,492 acres of WFHF accomplishment. An additional 712 acres of CWK2 target was also accomplished. BDBD accomplishments on the Forest included treatment on 894 acres. Results of all prescribed burns were evaluated on post monitoring burn forms attached to the District burn plans.

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.

Fuels: For FY07, the Forest accomplished 1,492 acres of hazardous fuels accomplishment. An additional 712 acres of CWK2 target was also accomplished. Brush Disposal (BD) accomplishments on the Forest included treatment on 894 acres. Results of all prescribed burns were evaluated on post monitoring burn forms attached to the District burn plans.

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 FY07, the Forest completed 41 miles of Level II stream surveys, operated 2 smolt traps on the Tiller Ranger District, and completed spawning ground surveys and redd counts on numerous streams across the Forest.

The streams surveys 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 low levels of production for anadromous fish, despite generally favorable ocean conditions, restricted harvest 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 winter peaks).

Additionally, structurally simplified rearing habitat in combination with high summer water temperatures are factors in reducing overall anadromous (juvenile) fish production.

Spawning surveys demonstrate that portions of the North Umpqua River and several of its tributaries within the Forest are disproportionately important in salmon and steelhead production, relative to the rest of the Umpqua basin. This is particularly the case for two of the "healthiest" populations, spring Chinook salmon and winter steelhead.

Heritage

In FY 2007 monitoring took place at 171 prehistoric or historic sites, and on 16 project areas, totaling 178 acres. The Umpqua National Forest and the Cow Creek Band of Umpqua Tribe of Indians signed the Memorandum of Understanding between the USDA Forest Service Umpqua National Forest and Cow Creek Band of Umpqua Tribe of Indians 07-MU-11061500-024. This agreement allows for the sharing of information between the Tribe and Forest, Site Monitoring by the Tribe, surveillance equipment on loan from the Tribe to the Forest, and other Archaeological Stewardship activities. The Tribe contributed 224 hours of volunteer labor completing site monitoring in FY07. 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. Archaeological looting increased slightly on the forest. Six incidents of archaeological looting were documented and an appropriate investigation was conducted for each incident.

Minerals

The overwhelming majority of the mining claims on the Forest are located within the Bohemia mining district which straddles the topographic divide separating the Cottage Grove and North Umpqua Ranger Districts. All the 'active' mining claims during Fiscal Year 2007 were on the Cottage Grove Ranger District. The Cottage Grove Ranger District processed a total of 62 Notices of Intent and 10 Plans of Operations.

A total of ten Forest designated material sources were entered in Fiscal Year 2007 for the development and extraction of sizable amounts of common variety [salable] mineral materials. Many other material sources (borrow pits and rock quarries) were entered by the local public to remove small quantities of building stone or decorative rock. Seven of the ten material sources entered involved large-volume (greater than 1,000 cubic yards) removal of rock resources thus requiring preparation of a single entry Pit Development Excavation Plan. A total of 30,387 cubic yards of rock resources were developed and utilized by government contractors on a variety of construction projects located throughout the Forest; including the production of 23,060 cubic yards of crushed rock aggregate and 8,147 cubic yards of riprap materials. Roughly 3,480 cubic yards of the 8,147 cubic yards of riprap materials developed by government contractors in Fiscal Year 2007 was issued via mineral material sale permit. In addition, another 180 cubic yards of decorative-landscape stone was issued to the general public via small-volume mineral material sale permits. An aggregate total of 30,387 cubic yards of rock resources was extracted from the Forest in Fiscal Year 2007.

Range

The Forest livestock program is implemented primarily on the Tiller Ranger District. Approximately 47,790 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 2007 grazing season. The

Forest did not authorize use of the Joe Hall Pasture during 2007 because of operational considerations.

Recreation

National Visitor Use Monitoring was completed in 2007 across the Forest. Overall summer recreation use remained constant, although visitation on the Diamond Lake Ranger District decreased at Lemolo Lake for water quality reasons and increased at Diamond Lake Campground because of the improved water quality and recreational fisheries.

Effectiveness and Validation monitoring occurred at the Ranger District level. The Diamond Lake Restoration Project FEIS, completed in 2004, continued to be implemented into 2007.

Soil and Water

Best Management Practices (BMP) checklists were written for 13 out of 17 ground-disturbing activities in FY07, or 76 percent. Those BMP checklists are being implemented. In FY07, 28 streams were monitored for temperature at Forest Plan monitoring sites and many more on other streams. Monitoring showed that temperature has not changed on most streams, but that natural stream temperatures in 2007 were about 1-2 degrees Fahrenheit cooler than last year (2006 was one of the warmest years on record). Four streams were monitored for turbidity; the monitoring results showed that turbidity levels have not changed (Attached Graphs). No soil productivity reports were completed on the Forest.

Timber and Vegetation Management

The timber volume offered for sale from the Umpqua National Forest in FY 07 totaled just over 46 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.

Reforestation efforts continued in areas affected by the 2002 fires (Apple and Tiller Complex Fires) and by the 2003 fires (Kelsay Fire).

Transportation

Traffic counts on the Umpqua National Forest have been collected for 2005 – 2007, but have not been complied and a report has not been written. Road mileage by maintenance level at the end of the fiscal year is reported.

Visuals

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.

Wild and Scenic Rivers

In 2007, monitoring continued on the North Umpqua Wild and Scenic River through an MOU between the BLM and the Forest Service. In 2007, 64% of all boating use was non-commercial with adjusted non-commercial use counted at 3,484 user days. Commercial use, as reported by 10 permitted rafting guides was 36% of all use (1,982 user days).

Wilderness

Overall use remains low in the Boulder Creek Wilderness and Mt. Thielsen Wilderness. Higher use is associated with the PCT trail and trails 1456 and 1459. No incidents of unauthorized use were discovered or reported. Limited wilderness patrols noted no change from previous condition.

Fifteen wilderness patrols were conducted from May to October, primarily in Fish, Cliff and Buckeye Lakes areas. 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.

Wildlife and Threatened/Endangered Species

In 2007, the third 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. No owls have been located to date.

In 2007, the Forest coordinated with the Oregon Department of Fish and Wildlife (ODFW), as they continued to monitor deer and elk populations. In general, Forest-wide observations show that elk trends appear to be declining.

Townsend's bats are monitored at one site on the Forest. The population appears to be stable at the North Umpqua site. Informal basking surveys were conducted for Western Pond Turtles.

Bald eagles were monitored at all four known sites on the Forest. All known sites continued to be occupied. Reproductive success in 2007 was down from previous years. Peregrine falcon sites were also monitored. Thirteen of fourteen known sites were monitored. Ten of the sites successfully fledged young.

Finally, primary cavity nesters and landbirds were monitored on two project areas on the forest. A Breeding Bird Survey (BBS) route was monitored again within the boundary of the Apple Fire. The Forest is beginning to use monitoring data from nearby BBS routes adjacent to the Forest.

Kincaid's Lupine monitoring continues to be contingent on the development of a management plan. Umpqua Kalmiopsis monitoring showed that cover is increasing in two sites. The Umpqua mariposa lily is also showing an increase in population, while the populations of clustered Lady's Slipper appear to be declining. No monitoring was completed for Umpqua swertia or tall bugbane.

Detailed Resource Area Reports

Fire and Fuels

What monitoring did the Umpqua National Forest do in 2007?

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

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

Suppression/Presuppression – Under this category the Forest was financed at 82.5% of the Most Efficient (MEL) based on FY99 NFMAS (National Fire Management Analysis System) planning inflated to FY07 dollars. With this type of financing, the Forest can expect 2,596 acres burned for a cost-plus-loss of $16.9 million.

The Energy Release Components (ERC's) on the Forest were above average the majority of fire season, but an unexpected rain event that occurred with the largest lightning event in July, helped suppression efforts in keeping the fires manageable and small. The lightning that occurred in early to mid July fires was well above the normal seasonal activity of the Forest and was reminiscent of events that occurred in large fire years. The lightning event also challenged cooperators in total number of reported starts. If the rain event had not occurred, the Forest would have easily exceeded the Initial Attack capabilities and the probability of large fire events would have occurred.

TSP[1] – According to the TSP production chart attached, the Umpqua NF remains well below the TSP goal. According to the guidelines that the Forest adheres 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 the Forest learn in 2007?

Suppression/Presuppression – The Forest recognized that the NFMAS run parameters for a below normal to normal year are only supplemented by severity and cost savings from other Forests in the Region and that true costs are not reflected in the dollars given to the WFPR

[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.

budget. For monitoring purposes the Forest was well within the thresholds due to cost savings from other fund sources. One item that the Forest had to deal with in 2007 was that the NFMAS costs did not keep up with actual costs on the ground. Due to changes in policy and direction, the increased the leadership and non-producer costs related to oversight of a safe and effective fire suppression program.

From the NFMAS run, fire season is identified as being 130 days; the Forest was below at 108 days. In 2007 the Forest relied on severity dollars and resources associated with severity starting in late July ending October. 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 2006, the Forest finished phase One or the FPA (Fire Program Analysis) analysis, but it was found that there were some fatal flaws in the program and that is was put on hold until further notice. For 2007, the Region used an interim budget based on past funding issues with some money being redistributed across the board to support essential Regional and National programs for suppression. Until the models are corrected, the Forest needs to keep the Region informed that costs for 2007 and beyond are not adequate and do not represent the actual dollars needed on the ground to meet the Most Efficient Level (MEL) staffing levels.

Fuels – The Forest fuels program continues to be constrained by a budget process that is driven, in part, by unit costs (i.e. $/acre). As expressed in the FY08 Deployment Criteria, the Forest continues to have one of the highest unit costs in the region, which makes the Forest less competitive for funding allocations. However, significant strides have been made in recent years to lower these costs. It is also important to recognize that unit costs will always be higher in these forest and fuel types compared to east-side forests. The Forest reports that over 1,200 additional acres of fuels treatments could be accomplished if fully funded.

The timber/hazardous fuels Board Of Directors (BOD) and fire managers are encouraged to develop a strategy for both increasing the Forest's standing in the budgeting process as well as marketing Forest successes and promoting needs to the RO with the goal of increasing out-year budgets. The opportunity to "leverage acres" in FY07 and beyond will also make the Forest more competitive.

TSP – The Forest continues to maintain excellent air quality standards as defined by direction. No smoke intrusions occurred in any designated areas from the prescribed burns. Prescribed fire smoke monitoring continues with audits being accomplished as outlined in Forest direction. Total tons and total suspended particulates are much lower than historic figures (Figure 1). These low levels are maintained through reducing consumption by broadcast burning in the spring under high fuel moisture conditions and purposely leaving sufficient large woody material for long term site productivity.

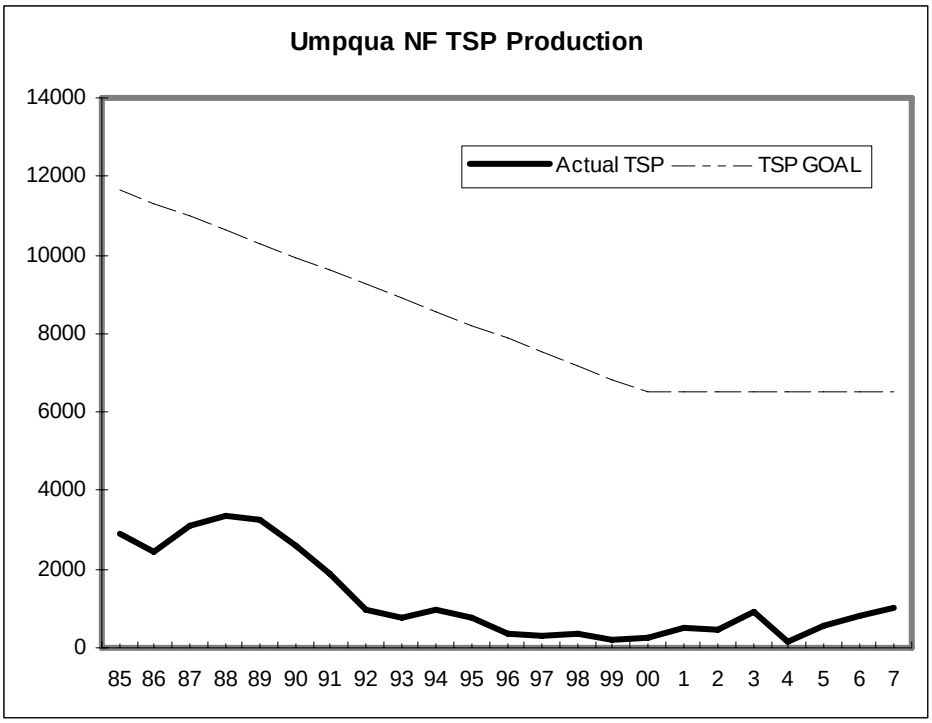


Figure 1. Total Suspended Particulate (TSP) Production Graph 2007.

Amendments

The Forest still needs to do a Forest Plan amendment to move Remote Access Weather Station (RAWS) sites into administrative sites and an environmental document needs to be completed to maintain these permanent sites to standards set within RAWS station maintenance plans. Plan revision is scheduled to occur in 2013, and Fire Management will be closely involved in the process once it occurs.

Recommendations

For FY2008, recommendations include:

- **Suppression/Presuppression** – Stay in tune with the new budget processes that will replace outdated NFMAS runs and recognize that in the future we will be challenged to show that our current organization is run in a 70/30 fashion with 70% of our budget being in the discretionary category (discretionary costs include items such as; temporary employees, contracts, annual agreements, optional travel and training, lookouts, and district dispatching). The other 30% of the budget would fall into the base cost category. Currently our organization has a mix of discretionary to base that varies by each subunit. The organization need to be looked at to make sure they can weather a 2% decrease in dollars within the 30% side. The Regional Office understands our plight with leadership and inflation costs not being adequate and can only assist us in limited ways. We need to understand that the Regional Office is not okay with deficit spending as they have been in the past.
- 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 Forest's MEL staffing levels.

- Move ahead as needed using the Program Implementation Guide (PIG) book numbers for 2007 planning and work chunks. 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 lower cost for protection.
- **Fuels** – The Forest needs to continue increasing the implementation of fuels treatments to reduce the risk of wildland fires in Wildland Urban Interface (WUI) and high value resource areas. Treatments and costs need to remain competitive. The Forest also needs to strive for better methods and understanding of where to prioritize treatments to most efficiently treat the landscape. The Forest needs to continue to demonstrate efficiency and make a case for funding that is equitable with the rest of SW Oregon. The Forest needs to remain engaged with the County and communities in any further community protection planning so they are competitive for Regional dollars. It is recommend that the Forest continue utilizing leveraged acres in conjunction with integrating with other resource areas to increase acres treated and lower unit costs. The Forest should be cautious of getting stuck in a cycle of molding the program exclusively around budgeting processes and develop locally meaningful processes for guiding the program.
- **TSP** – The Forest will continue to monitor TSP levels. It is anticipated that if the budget allows increased treatment acres, the Forest will remain within acceptable levels of compliance.

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 the Umpqua National Forest do in 2007?

ME-06: Three of the four Ranger Districts (Tiller- 6.5 miles, North Umpqua- 22.9 miles and Cottage Grove- 11.3 miles) conducted Level II Stream Surveys in 2007, totaling 40.7 miles. This represents 23% of the Forest Plan level of 176 miles annually.

ME-11: Two smolt traps (South Umpqua River & Jackson Creek) were operated in 2007, both at the Tiller Ranger District. This represents 20% of the Forest Plan level of 10 sites/year.

ME-12: No Pool Quality transects were inventoried in 2007. This represents 0% of the Forest Plan level of 8 transects.

ME-13: No macroinvertebrate sites were sampled or analyzed in 2007. This represents 0% of the Forest Plan (35 sites) level.

ME-24: No Large Woody Material transects were inventoried in 2007. This represents 0% of the Forest Plan level of 8 transects.

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

- Tiller completed multiple surveys for coho salmon on transects in Dumont, Boulder, Joe Hall and Beaver Creeks in 2007. Additionally, Tiller completed several mid-summer spring Chinook holding counts in established index pools in the South Umpqua River.
- Diamond Lake completed multiple surveys for coho salmon on two stream transects in Boulder and Copeland Creeks. Additionally, Diamond Lake completed multiple surveys for steelhead in Copeland Creek.
- North Umpqua completed multiple surveys for steelhead on several transects in the Steamboat Creek watershed and an adult spring Chinook spawning survey on the mainstem North Umpqua River in 2007.

What did the Forest learn in 2007?

The stream survey work was conducted primarily to establish baseline conditions. Results further supports previous findings that many stream segments on the Forest in "managed" landscapes currently have numerous "At Risk" or "Not Properly Functioning" attributes, including: high summer water temperatures, loss of floodplain connectivity, altered (coarsened) streambed substrate composition, simplified and widened stream channel morphology, and reduced LWD loading. These watersheds are in need of substantial protection and/or restoration in order to achieve Forest Plan Desired Conditions and contribute to the recovery of desired native TES fish and other aquatic organisms. Restoration will be based on FY-2000 Restoration Business Plan (as amended) priorities, e.g., Steamboat, Middle South Umpqua, Jackson and Middle North Umpqua watersheds.

Results from the Smolt Trapping conducted in both years shows a continuing trend of very low levels of production of several native anadromous South Umpqua River fish stocks, including: spring Chinook, coho, and searun cutthroat trout; despite recent favorable ocean conditions and resultant higher adult survival rates. This suggests that spawning and juvenile rearing habitat in many parts of the South Umpqua sub-basin 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. The change in native-stock adult abundance, which for some stocks is substantially determined by off-forest conditions (ocean productivity) and/or activities (harvest, brood collection) was mixed. Healthier stocks, such as North Umpqua spring Chinook and winter-run steelhead, saw generally constant numbers over the past 10-year average; while most of the more sensitive stocks, such as: searun cutthroat (Forestwide), coho (Forestwide), and South Umpqua spring Chinook, had small or no apparent increases in abundance. It is likely that natural production of the healthier stocks (both of which utilize the high quality rearing habitat afforded by the North Umpqua main-stem) was large enough to be able to take advantage of the excellent ocean conditions and reduced harvest levels over the past two years, as has been hypothesized as the reason for generally larger salmon returns (wild and hatchery) throughout the region for the period 2002-2006. Conversely, low natural productivity of the depressed stocks may have precluded a noticeable increase. No trends in abundance are evident at this time.

Amendments

No amendments are recommended at this time.

Recommendations

- At a minimum, increase present aquatic monitoring efforts to include at least 15 macroinvertebrate sites.
- 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. Update the RBP to incorporate Hydropower Mitigation Fund opportunities.
- Initiate a more comprehensive effectiveness evaluation of recent large-scale habitat restoration work in the Steamboat, Jackson and Middle South Umpqua watersheds.

Heritage Resources

What monitoring did we do in 2007?

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 171 prehistoric or historic sites, and on 16 project areas, totaling 178 acres.

What did we learn in 2007?

Archaeological looting has slightly increased from 2006. Six incidents of archaeological looting were documented and an appropriate investigation was conducted for each incident. The Umpqua National Forest and the Cow Creek Band of Umpqua Tribe of Indians signed the Memorandum of Understanding between the USDA Forest Service Umpqua National Forest and Cow Creek Band of Umpqua Tribe of Indians 07-MU-11061500-024. This agreement allows for the sharing of information between the Tribe and Forest, Site Monitoring by the Tribe, surveillance equipment on loan from the Tribe to the Forest, and other Archaeological Stewardship activities. The Tribe contributed 224 hours of volunteer labor completing site monitoring in FY07.

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. 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 2007?

Element #57:

The preponderance of the mining claims on the Forest are located within, and proximal to, the Bohemia mining district that straddles the hydrologic divide separating the Cottage Grove and North Umpqua Ranger Districts. Mining-related activity occurs less frequently on the Tiller Ranger District. On site monitoring occurred as funded by the district mineral personnel.

Element #58 and #59:

A total of ten[2] Forest designated material sources were entered in Fiscal Year 2007 for the development and extraction of common variety (salable) mineral materials. Six of the ten material sources entered involved large-volume (greater than or equal to 1,000 cubic yards) extraction of rock resources thus requiring preparation of a single-entry Pit Development [Excavation] Plans. Pit Development Plans were prepared for five of the six large-volume entries into designated material sources by the Forest Rock Resource Manager.

An aggregate total of 30,387 cubic yards of rock resources were developed and utilized by government contractors on a variety of construction projects located throughout the Forest; including the production of 22,060 cubic yards of crushed rock aggregate and 8,147 cubic yards of riprap materials. Roughly 3,480 cubic yards of the 8,147 cubic yards of riprap materials developed by government contractors in Fiscal Year 2007 was issued via mineral material (sale) permit. In addition, another 180 cubic yards of decorative-landscape stone was issued to the general public via small-volume mineral material (sale) permits. An aggregate total of 30,387 cubic yards (50,140 tons at 1.65 tons/cubic yard) of rock resources was extracted from the Forest in Fiscal Year 2007 (Table 1).

Table 1. Reported production of salable mineral materials during fiscal year 2007.

Ranger District	In-Service Use Crushed Rock Aggregate *(cubic yards)*	In-Service Use Riprap *(cubic yards)*	Sale Permits General Public Landscape Rock *(cubic yards)*	Sale Permits Government Contractor Riprap *(cubic yards)*	Totals *(cubic yards)*
North Umpqua	3,100	600	75	0	3,775
Tiller	6,560	1,960	52	0	8,572
Cottage Grove	8,400	1,309	14	0	9,723
Diamond Lake	4,000	798	39	3480	8,317
Totals	**22,060**	**4,667**	**180**	**3480**	**30,387**

The Forest Engineering Survey Crew conducts all the Total Station site surveys. The Forest Rock Resource Manager prepares all single-entry Pit Development Excavation Plans, when notified of an impending large-volume entry. As the Forest continues to increase timber harvest levels, the need for rock production will also continue to increase (Figure 2). Increasing rock needs may lead to the need for core drilling investigations in the future.

[2] The following pits were entered: Lost Dutchman, Surveyor, Big Stump, Beckley-Thomas, Fish Creek, Lemolo Dam, Bloody Point, West Limpy, Blodgett, and Sugarloaf.

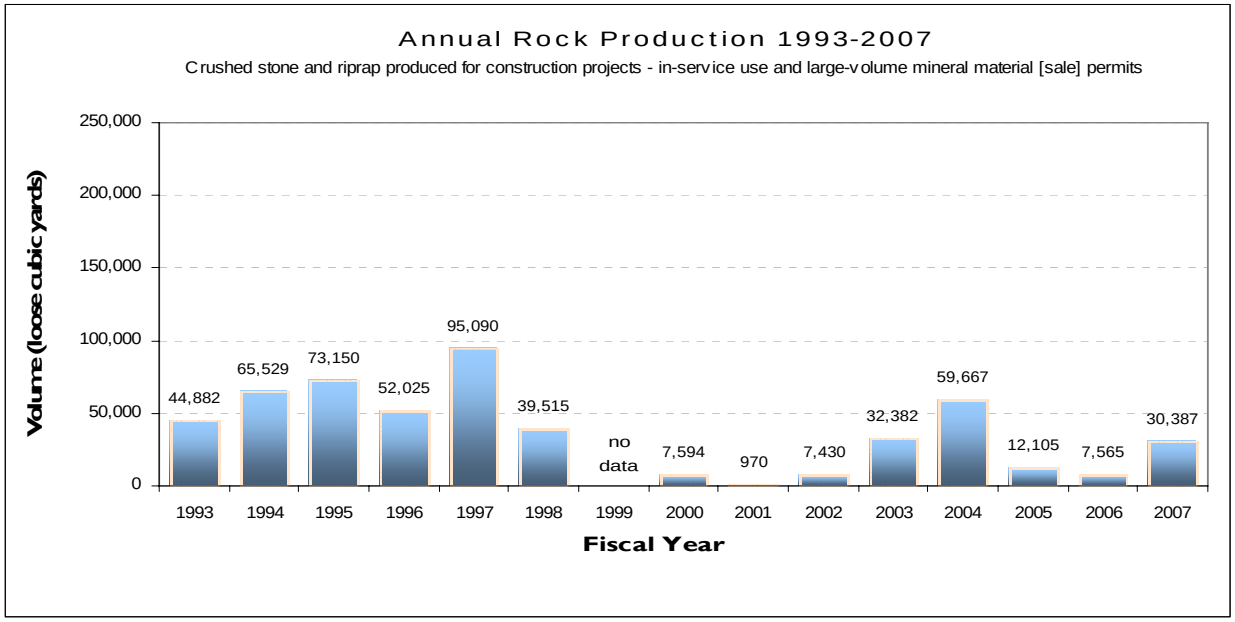


Figure 2. Annual production of rock materials for fiscal years 1993 through 2007.

What did we learn in 2007?

Locatable Minerals (#57)

During Fiscal Year 2007 nearly all "active" mining operations occurred on the Cottage Grove Ranger District with a couple mining operations taking place on the North Umpqua Ranger District. Overall a total of 62 Notices of Intent and 10 Plans of Operations were processed on the Forest as a whole. Mining activity on the Forest consists chiefly of recreational suction dredging or miners performing annual assessment work on their claims.

That part of the historic Champion mine property situated on Federal land within the Bohemia Mining District is presently undergoing a phased two-year 2007-08 contract to dispose of localized concentrations of heavy metal contaminants and also to redirect underground mine water flow from the lowermost 1200-level adit into newly constructed settling ponds at the headwaters of Champion Creek.

The Cottage Grove Ranger District has continued to develop a good working relationship with the Bohemia Mine Owners Association (BMOA). The BMOA will sponsor a "Mining 101" as public outreach this coming summer.

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

The Forest Rock Resource Manager must maintain frequent contact with a varied number of persons on District field units as well as project leaders for the two SO Engineering Project Teams to keep informed of on-going and planned construction projects that require rock materials and large-volume entries into Forest designated material sources. Lacking such communication entries are occasionally made into material sources without the knowledge of the Rock Resource Manager. In such instances, single-entry Pit Development Excavation Plans are not prepared, and

the type and quantity of rock materials extracted goes unreported. In some instances, unplanned development has led to problems[3].

Some of the more frequently entered and strategically located material sources on the Forest are approaching depletion of available rock resources within the limits of existing development – the limits oftentimes being the boundary with mature or old growth timber stands. Expansion of an existing material source to develop additional reserves of quality rock materials requires NEPA which District field units are no funded for at this time. Since the mid 1980's no new material sources have been developed and no existing material sources have been expanded beyond established limits of development. Many of the government-owned stockpiles of crushed rock aggregate throughout the Forest are exhausted or severely reduced in volume over the last two decades as a result of entries by the Forest Road Maintenance Crew to make spot repairs. A need exists to replenish some of these stockpiles in areas of strategic need.

The Forest is actively perusing Payco rock crushing contracts to replenish dwindling crushed rock aggregate stockpiles at key areas on the Forest. In Fiscal Year 2007 some 6,500 cubic yards of crushed rock was developed and stockpiled at Big Stump material source located along the Jackson Creek corridor. In Fiscal Year 2007 Payco rock crushing contracts are planned to take place at West Limpy material source in the headwaters of the Little River watershed and also at Brown material source situated on the hydrologic divide between the East Fork and Middle Fork of Deadman Creek drainages.

Amendments

No amendments are recommended at this time.

Recommendations

- The Forest Rock Resource Management Plan needs to be updated. In light of Forest reorganization the roles and responsibilities of Forest and District personnel involved in rock resource management needs to be clarified. A more effective process needs to be developed for how District Rock Resource Managers, Engineering Project Team Leaders, Forest Road Maintenance Supervisor, and other District personnel involved with rock resource management and issuance of mineral material [sale] permits coordinate with the Forest Rock Resource Manager. There may be an opportunity to amend the Forest Rock Resource Management Plan during the next revision of the Forest LRMP.
- There appears to be a need to increase the number of persons on the Forest to perform contract inspection and administration. Rock source development needs to be more closely inspected, otherwise the government will likely have more claims and Forest designated material sources may be developed in a manner that does not correctly utilize high quality rock resources or leads to increased hazards to the general public.
- The Forest Rock Resource Manager will be evaluating a dozen or more strategically located material sources throughout the Forest in Fiscal Year 2008 to recommend a course of action for developing new material sources or expanding the limits of existing [long-term] development at others. Expansion may likely entail moving into mature growth, in most cases. The material sources selected will be situated within Matrix or Adaptive Management Area (AMA) allocations. Future timber sales that are planned near these prospective material sources could be the vehicle to complete NEPA. Relatively inexpensive air-track drilling could be contracted to delineate available rock reserves, where needed to delineate rock reserves.

[3] The Fish Creek and Big Stump pits each experienced entries that exceeded pit development plans, while an entry at the Sugarloaf pit created an unsafe condition.

- There is a need for yearly refresher training at District field in how to enter data for "Batch permits" and "Speedo Forms', and how to prepare Mineral Material permits for large-volume removals requested by contractors.

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 2007?

Prior to the 2007 grazing season, the Forest issued new Term Grazing Permits and Allotment Management Plans, which are effective until 2016. These documents implement the 2006 Record of Decision. The ROD essentially continued the livestock grazing program that was in place at the time it was published, and added the 4,160-acre Joe Hall Pasture in the Summit Allotment. The allotments and pastures comprising the permitted grazing area under the ROD total 51,950 acres.

The Forest livestock program is implemented primarily on the Tiller Ranger District. Approximately 47,790 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 2007 grazing season. The Forest did not authorize use of the Joe Hall Pasture during 2007 because of operational considerations. The yearly monitoring effort is conducted to assess how well permitted livestock grazing complies with the Forest Plan, as amended, and the Biological Opinions. The field notes and allotment monitoring reports are located at the Tiller Ranger District.

The 2007 range administration program, including the monitoring component, was fully funded.

What did we learn in 2007?

The Forest authorized 1,243 head months of livestock use, or about 65 percent of the use permitted by the ROD. This use reflects the livestock numbers for which permittees applied. However, actual use totaled 1,106 head months because a permittee did not turn-out livestock as authorized. For this violation, the Forest issued a warning letter for noncompliance.

According to the Term Grazing Permits, the scheduled turnout date is May 1; however, it was delayed this year. Range readiness assessments, which determine turnout on the basis of soil moisture conditions and plant phenology, showed high soil moistures and slower than usual forage growth during early May. Turnout for the Divide Allotment as well as for the Pickett Butte and Collins Ridge Pastures was authorized for May 16, while turnout for Drew Creek and Diamond Rock Allotments occurred on May 26.

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. One of these sites, RD 1615 in the Divide Allotment, was not intensely monitored in 2007 because no livestock used the grazing area the site represents.

Monitoring is conducted to assess compliance with the Forest Plan Standards and Guidelines. It is also intended to gather information for adaptive management applications that focuses on obtaining compliance through adjustments in management practices. The Forest Plan contains a

number of management prescriptions for regulating livestock use to insure that grazing is compatible with other resource values. The ROD provides utilization standards for implementing these prescriptions. These use standards are detailed in Allotment Management Plans, which are in turn incorporated as special terms and conditions for the grazing permits.

The monitoring results indicate that permittees were able to comply with the provisions of the Allotment Management Plans. As shown in the following tables, all of the use standards were met. For the Drew Creek, Diamond Rock and Divide Allotments, the 2007 data, displayed in Table 2, was consistent with findings from prior years. This year marks the eight full season of use for these allotments after the Forest reconfigured its historic range program on the Tiller Ranger District 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 demonstrates that the permittees for Drew Creek, Diamond Rock and Divide Allotments have developed a pattern of use that allows livestock to be successfully grazed. The level of success reflects years of adaptive management, as well as good cooperation, timely monitoring and skillful application of practices.

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

Monitoring Sites	Site	Type	Threshold (%)	2007 Actual Use (%)
Threehorn	Riparian	Forage Use 1/	25	Not measurable
	Riparian	Vegetation Structure 2/	10	<1
	Riparian	Streambank Stability 3/	20	Not detected
RD 1615	Riparian	Forage Use	25	Not detected
Crossover Meadows	Upland	Forage Use	25	Not measurable
	Riparian	Vegetation Structure	10	<5
Peavine Camp	Riparian	Forage Use	25	<5
B. Bates Meadow	Upland	Forage Use	25	<20
	Riparian	Vegetation Structure	10	<10
East Fork Cow Creek	Riparian	Forage Use	25	Not measurable
	Riparian	Streambank Stability	20	<2
RD 3201 MP 0.8	Riparian	Forage Use	25	<10
Lower Camp Creek	Riparian	Forage Use	25	Not measurable
Upper Camp Creek	Riparian	Streambank Stability	20	Not detected

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.

The 2006 Range Monitoring Report disclosed that the Forest considers grazing use at Peavine Camp as an indicator of livestock dispersal to the outlying, higher elevation areas of the Diamond Rock Allotment; this helps assess impacts to lower elevation meadows and wetlands. Monitoring in 2007 indicates an acceptable level of livestock use at both Peavine Camp and Drew Lake, continuing the trends found in previous years.

Forage use at B. Bates Meadow was higher during 2007 (still within acceptable use thresholds) than in each of the previous three seasons. Like Peavine Camp, the increased use at B. Bates Meadow reflects successful efforts to push livestock to outlying areas in the Diamond Rock Allotment. However, the Forest will be focusing on adjusting grazing practices in this area in 2008 to find a lower balance of livestock use, as this area is susceptible to overgrazing (as recorded by previous use records).

Survey and Manage (now considered Sensitive or Rare and Umcommon) species within the Diamond Rock Allotment were monitored; there were no signs of livestock use within or near the known plant sites or their buffers. No grazing also took place at a monitoring site for P. arcticum crateris.

The Forest first authorized livestock grazing at Pickett Butte and Collins Ridge in 2003, based on adaptive management. These pastures, along with Joe Hall, were delineated within existing allotments in order to reduce resource impacts. This was accomplished by selecting prime transitory range that has minimal potential for riparian conflicts. The adaptive management process is being applied to develop a pattern of use that conforms to the Forest Plan, as well as one that contains livestock to the pastures. As shown in Table 3, the permittee was able to comply with the utilization standards during 2007.

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

Monitoring Sites	Site	Type	Threshold (%)	2006 Actual Use (%)
RD 3113-110	Upland – TR 1/	Forage Use 2/	50	5
Branch Fence	Upland – TR	Forage Use	50	Not measurable
Branch Riparian	Riparian	Streambank Stability 3/	20	<5
RD 3113-200	Riparian	Forage Use	25	<10
	Riparian	Vegetation Structure 4/	10	<10
RD 2929 PP Meadow	Upland – Meadow	Forage Use	25	<10
Bullock	Riparian	Forage Use	25	<10
	Riparian	Vegetation Structure	10	<5
RD 2980-625	Riparian	Forage Use	25	<5
	Riparian	Streambank Stability	20	<10
Cedar Shelter	Riparian	Vegetation Structure	10	<10

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.

The 2007 monitoring results shown in Table 3 are similar to the previous season, with two notable exceptions. Measurements of forage use at RD 3113-110 and Branch Fence, two important grazing areas in the Pickett Butte Pasture, showed a decline in utilization in 2007. For 2006, use was determined to be 15-20 percent and 15 percent, respectively, for the two sites. By comparison, the four year average use (2003-2006) for the former is 25 percent, while the latter averaged slightly more than 5 percent use. The commercial thinning units comprising the RD 3113-110 area, particularly, afford season-long grazing opportunities that could be utilized more consistently with minimal impacts to other resources. The Forest and permittee have discussed several approaches, such as installing a water development or using supplements, to hold livestock in the area for longer periods of time to more fully utilize available forage. This adaptive approach could also reduce straying in the allotment.

The modified turnout pattern for Collins Ridge that was used for the past two years was again implemented in 2007. In 2007, turnout took place above MP 4.0. This adjustment in turnout location reflects another iteration of adaptive practices intended to find a reasonable pattern of grazing that balances protection of meadows with better utilization of transitory range within plantations along RD 2929, beginning immediately above MP 4.0.

Monitoring of the RD 2929 PP Meadow site, which represents livestock use of the meadow complexes showed utilization to be under 10 percent in 2007. This measurement compares to 15 percent in 2006, 10 percent in 2005; and 20 percent in 2004, when livestock were turned out below the aforementioned junction and allowed to travel upslope along RD 2929. Based on four years of adjusting turnout locations, it is very clear that turning out livestock a various distances from the RD 2929/2929-300 junction results in correspondingly different grazing intensities within the meadows.

With respect to forage utilization, the plantations along RD 2929 were well-grazed in 2007. Unit 9-6 near MP 4.0 experienced 30-40 percent use, while the ponderosa pine plantations near MP 8.0 showed 30 percent, as did grazing along RD 2929-500 at MP 5.0. Turnout is directed at these plantations to utilize the abundant forage and to hold livestock in areas with little potential for resource conflicts.

The turnout pattern is also modified to minimize straying into a private holding accessed by RD 2929-249 at MP 3.0. The landowner reported one encroachment in 2007, in contrast to multiple incidents in previous years. Modifying turnout in this manner is intended to find a reasonable pattern of use that provides grazing opportunities while reducing resource and social conflicts. In addition to the straying described above, there were several instances of livestock encroachment involving other private inholdings. Livestock also strayed onto RD 2929, which is located below the allotment. The Forest recommended to the affected landowners that they protect their interests by working with the permittees and Douglas County officials. The Forest is also engaging these parties to alleviate this problem.

The 2006 Range Monitoring Report stated that the Forest and permittee would be discussing solutions to contain straying during the course of developing the Allotment Management Plans in 2007. These discussions have been completed, solutions identified and incorporated into the Allotment Management Plans and discussions for funding initiated with the Regional Office. The range improvement and management practice specified in foregoing discussion regarding RD 3113-110 are the initial steps in this regard. Other approaches involve cattle guards and wing fences, which were also identified in the Range FEIS.

For the fifth consecutive year, grazing use at the RD 3113-200 monitoring site fell within the thresholds for riparian forage use and vegetation structure. The extent of livestock impacts here is an indicator of the degree of grazing success for the Pickett Butte Pasture. Stubble heights were measured at 6-8 inches; and there was no grazing of grass regrowth in the fall. It will continue to receive management focus over the next several years to ascertain a reliable pattern of use.

Amendments

No amendments were identified at this time.

Recommendations

- Continue to engage permittees to develop a common understanding of resource problems and common solutions to reduce risks.
- Continue to work with the permittee to develop adaptive solutions to resolve the straying concerns in the Pickett Butte and Collins Ridge pastures.
- Work with permittee to reduce livestock use in the B. Bates area of the Diamond Rock Allotment.

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 2007?

#25 Developed Recreation:

National Visitor Use Monitoring was completed in 2007 across the Forest. Overall summer recreation use remained constant, although visitation on the Diamond Lake Ranger District decreased at Lemolo Lake for water quality reasons and increased at Diamond Lake Campground because of the improved water quality and recreational fisheries.

For the Tiller Ranger District, effectiveness monitoring was conducted. The demand for developed sites exceeds capacity on holiday weekends, summer weekends, and at some sites during hunting season. Use in Industrial Camps is primarily recreation use. Boulder Creek Annex Campground was de-commissioned and the facilities were re-located to Three C Rock area.

For the Cottage Grove Ranger District, validation monitoring was conducted. The developed overnight campsites at Cedar Creek, Hobo, and Mineral continue to exceed capacity on summer holidays and most mid-late summer weekends. Capacity at Rujada was increased from 80 to 100 Persons at One Time (PAOT's) this fiscal year and use still exceeded capacity during holidays and some weekends. Public rentals continue to be popular and a highly desired recreation opportunity with seasonal reservations continuing to increase. Fairview Peak Lookout Rental was rented 100% of the 2007 available season; however, all October reservations were cancelled and refunded due to vandalism to the propane lines thereby causing a significant decrease in rental revenues. Musick Guard Station was rented approximately 50% of the season (62 days/123 day season) an increase of 14% from 2006. Musik was also closed for 14 days (11%) to allow for extensive repair and painting by the Forest Work Camp.

The Cottage Grove Ranger District completed another 8% (total 98%) of Rujada improvements included in the FY 05 PAYCO funding to implement Rujada vegetation management and expansion project as well as a water source for Cedar Creek Camp. Various improvements and enhancements were made at fee recreation sites (Rujada, Cedar Creek, and Lund Park). Deferred maintenance projects at two public rentals, Fairview Peak Lookout and Musik Guard Station, received work. Condition surveys were completed on 100% of the Cottage Grove RD recreation facilities.

#26 Dispersed Unroaded Recreation: No area was surveyed on the Diamond Lake District. The North Umpqua RD reported little impacts from use in 2007 in dispersed unroaded recreation areas. Condition surveys were conducted on the Tiller RD for: (1) South Fork Cow Creek, 920 Castle Creek, and (3) Skimmerhorn. No change was reported. A MA1 Condition Survey was completed on the Cottage Grove RD in the Hardesty Area in 2006. In 2007, the Cottage Grove Ranger District conducted trail condition surveys along Trail #1400, #1401, and #1402 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 completed.

#33 ORV's: Summer ORV use was not formally monitored on the Diamond Lake District, although there is increasing demand to access off-road vehicle routes from the Diamond Lake Recreation Area. The Winter Recreation Assessment & Use Guide for the diamond Lake Ranger District was completed in 2006 and recommendations were initiated in 2007. On the Tiller RD the use and demand is low across the District, except during fall hunting season. Use is

increasing on the southern part of the Forest. 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 local Jeep Clubs continue to provide volunteer support to the 4 X 4 trails of Noonday and Sultana Way #1405 including the "Junction City Jeepers" who continue to support the trail through the "Adopt-A-Trail program. The Cottage Grove RD noted that OHV use is steadily increasing along the open motorized trails as well as over most of the Bohemia Mining Area. Use at the Champion Creek trailhead has increased significantly in the last 2 years and trailhead facilities here are used beyond capacity during holidays and some summer weekends. The Bohemia area has many old access routes to mining claims and OHV use is becoming more common in this area. Routes that have been closed by vegetation are being cleared and used without permission from the Forest Service or the mining claimants. County and Forest Service roads, specifically in the Bohemia area, are experiencing mixed use of vehicle, all-terrain vehicles (ATV) and motorcycles. Mining claimants' complaints have increased from this illegal off-roading. Resource damage to cut banks is increasing from ATV's trying to access around gates and earth berm closures. Usage is expanding beyond the currently offered routes. Minimal law enforcement patrols do not allow for off-highway vehicle (OHV) compliance. The Umpqua National Forest has started planning and implementing the National OHV Policy change. Finalizing existing condition is near completion. Scoping and NEPA is anticipated in 2008 with implementation in 2009.

#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 Castle Creek, Camp Comfort and Lower Flood OGGs and Cow Creek Gorge SIA. Cottage Grove RD noted that Fairview Creek OGG showed minimal evidence of vandalism due to minimal facilities, such as residue and litter from paint balling events. There was minimal evidence of placer mineral removal in streams, and except for occasional blow-down of trees from storms, there were no visible natural impacts to the area.

#36 Recreation Use in Dispersed Roaded & Unroaded Environments: The Tiller RD reported that "Public contacts are not adequate due to budgets and lack of personnel. Vegetation impacts continue in riparian reserves, especially in the South Umpqua River corridor." No use counts were conducted. Dispersed use along Brice Creek continues to increase. Dispersed use along Layng Creek is not allowed due to the municipal watershed agreement; however, some illegal camping occurs on occasion. Use along Sharps Creek is limited by the location of placer mining claims. Use on these placer claims is typically by the mining claimant and therefore fairly constant. Use at one developed campground (Mineral) has increased significantly, reaching capacity fairly consistently on weekends and holidays. This fiscal year (2007), PAYCO funds were used to completed installation of traffic controls to mitigate resource impacts at four popular riparian dispersed sites along Brice Creek. These parking barriers significantly reduced vehicles from causing further compaction at these streamside sites. Revegetation at these sites is planned for 2008. Residency, illegal drug-related activities, vandalism, and littering occur in the more remote dispersed/non-fee sites; however, this has decreased somewhat due to occasional Forest law enforcement patrols. District patrols by individual recreation personnel remain to be avoided due to concerns for personal safety.

What did we learn in 2007?

#25 Developed Recreation: The PAOT Days offered on the Diamond Lake District are fairly constant. Summer recreation use remained constant, overall, with use rebounding at Diamond Lake due to enhanced recreational fisheries and improved water quality of the lake. At Lemolo Lake, use decreased due to the reduced water quality from algae blooms.

Preliminary highlights of the Umpqua National Forest Recreation Use Study: 2007, for Diamond Lake, Lemolo Lake and Toketee Lake are summarized below:

- According to respondents, visitor use patterns at Diamond Lake were expected to stay longer by nearly 30% in 2007, however, the length of stay averaged 4.8 days, rebounding slightly from 2003. Repeat visitors rebounded by 6% between 2003 and 2007.
- Family group use is dropping from a high of 68% in 2001 to a low of 46% in 2007. Friends or family and friends increased in the same period from 25% to 47%.
- The primary activity of relaxing/hanging out rose from 22% in 2001 to 31% in 2003, then dropped to just 18% in 2007. However, the primary activity of fishing was 21% in 2001, virtually dropped to nothing in 2003, and increased to 31% in 2007, clearly a result of the improvement of the water quality and recreational fisheries at Diamond Lake.
- Activities that visitors participated in during 2007 were similar to those reported in 2001. Participation in fishing dropped from 54% in 2001 to 39% in 2003 and then increased substantially to 74% in 2007.
- Satisfaction with the overall recreation experience around Diamond Lake received high scores from a mean of 8.27 in 2001 to a mean of 9.05 in 2007 on a scale where 1 is low and 10 is best.
- For Lemolo and Toketee Lakes there are a high percentage of repeat visitors. Respondents report that 73% at Lemolo Lake and 57% at Toketee Lake were repeat visitors.
- Visitor patterns at Lemolo Lake were more long-term with a mean of 11.5 days compared to Toketee Lake at a mean of 4.1 days for their recreation stay.
- Toketee Lake respondents stayed longer (mean of 6.8 hours) than at Lemolo Lake on day trips (mean of 4.8 hours).
- About half (52%) of respondents at Toketee Lake were in family groups compared to 43% at Lemolo Lake.
- There were similarities at both lakes for primary activities in that developed camping, relaxing and fishing were about the same, but people at Toketee Lake also liked to view nature as a primary activity.
- At Lemolo Lake participation was greatest for developed camping, relaxing/hanging out, and fishing whereas Toketee Lake respondents participated in nature viewing as the most popular by far, followed by relaxing/hanging out, hiking/walking, and developed camping.
- Satisfaction with their recreation experience was high at both lakes with Toketee respondents reporting a 9.2 mean with Lemolo Lake slightly less at a mean of 8.5.

The Fee Program is working on the Cottage Grove District, to the benefit of the management and improvement of federal developed recreation sites, as well as to the general public who benefits from the increased maintenance items at these smaller, less commercial sites.

#26 Dispersed Unroaded Recreation: 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. Proposed future trail system expansion would create loop trail opportunities.

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 2007. 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.

#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 on the southern parts of the Forest. There is increasing demand for access to OHV routes from the Diamond Lake Recreation Area. The Winter Recreation Assessment and Use Guide for the Diamond Lake Ranger District was completed in 2006 which identified clarified priorities and resulted in grant applications for project funding being initiated.

#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 OGG (formerly Lund OGG). A condition survey for Fairview Creek was completed in 2006.

Condition surveys on the Tiller RD were completed on the Castle Creek, Camp Comfort and Lower Flood Old Growth Groves and Cow Creek Gorge SIA.

#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 (Gleason's Cabin and Cascade Bend) are more remote and therefore these two sites typically have more abuse at 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

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

Element #25:

- Monitor results on recreation use of the Implement the Diamond Lake Water Quality Final Environmental Impact Statement and Record of Decision.
- On the Tiller Ranger District, convert the Industrial Camps to Forest Camps. Plan for increasing the number of developed sites. Evaluate the resource impacts at the South Umpqua Falls Group Camp. Traffic controls and law enforcement is needed in the South Umpqua Falls Corridor. There is a need to designate day-use areas to reduce the human waste/water quality issues in the riparian areas. Received Title II funding to address safety and health considerations at the picnic areas and to complete master planning at South Umpqua Falls.

- On the Cottage Grove Ranger District, continue to consider further improvements to Hobo Camp to mitigate resource damage and unplanned expansion. Continue management of the public rental programs

Element #26:

- Continue implementation of the Diamond Lake Winter Recreation Assessment & Use Guide.

Element #33:

- Continue implementation of the new Forest Service policy on ORV use.

Element #35:

- Need interpretive plans for selected Special Interest Areas.
- Cottage Grove RD reported that, in relation to the Fairview Old Growth Grove, the trail area and adjacent stream access is predominantly used and maintained by placer mining claimants. There is a growing interest by local hikers in reconstructing the trail into a loop trail system with Hardscrabble Ridge, however, lack of funding and other trail priorities have delayed this opportunity. Several creek crossings are needed and extensive tread repair is needed to meet hiker standards.

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, 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 2007?

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 13 activities out of 17 ground-disturbing activities (76%) in 2007.

The Forest Plan identifies 29 streams to have temperature measured each summer on the Forest. Twenty-eight (28) streams with long-term records are reported in this 2007 report, but several other Forest Plan sites were monitored that are not shown on the report graphs (see attachments to the Monitoring Report).

Five (5) 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 and Boulder Creeks, and the North Umpqua Wild and Scenic River in 2007. The Forest Plan requires four monitoring sites. Streamflow data from the Oregon Water Resources Department is necessary for the analysis of

the North Umpqua River but is not yet available for 2007. The North Umpqua turbidity analysis for 2006 is presented in this report and 2007 will be included in next year's Forest Plan Monitoring Report. Layng Creek turbidity analysis for 2007 is not available for this year's report. The 2007 analysis for Layng Creek will be included in next year's monitoring report.

The Forest Plan requires Soil Productivity reports. No reports were produced in 2007.

What did we learn in 2007?

BMPs are being implemented, according to checklists written for timber sales and other activities that operated in 2007. Checklists were written for 76% of the projects we planned in 2007. See the attachments to the Monitoring Plan for a table of Best Management Practices checklists written by each Ranger District and the Umpqua Forest Planning Team.

Long term stream temperatures did not change, although 2007 maximum summer water temperatures were naturally cooler than the summer of 2006, which was among the warmest 6 years in the Umpqua record. The water temperature of Steamboat Creek, monitored since 1969, was 77 degrees Fahrenheit and about one degree cooler than last year. Fish Creek was 5 degrees cooler in 2006, because under a new hydropower license PacifiCorp stopped diverting flow in summer for the first time since 1952. In 2007, unlike other streams, Fish Creek maximum temperature was 65.3, or 1.5 degrees Fahrenheit warmer than the warm summer of 2006. Daily stream flow of Fish Creek was 83 cfs during July 10-16, the warmest 7 days of 2007. The streamflow was almost identical (82 cfs) during July 20-26, 2006 when Fish Creek maximum temperature was 63.5 degrees. Increasing the flow in Fish Creek has made it several degrees cooler than before 2006, when only 20 cfs minimum flows were provided.

While most streams were about one degree cooler in 2007, monitoring sites on Layng Creek and Brice Creek near Cottage Grove, and Little River upstream from Glide and Cavitt Creek were 1.5 to 2 degrees cooler. Tributaries of the South Umpqua River were also 1-2 degrees cooler this year than in 2006. The South Umpqua's Boulder Creek, a warm but important salmonid habitat stream (and a focus of recent habitat restoration), was a warm 77.5 degrees Fahrenheit in 2007, but that's almost 2 degrees cooler than last year.

No large streams on the attached graphs (see attachments to the Monitoring Plan) met the Clean Water Act and Oregon standard of 60.8 degrees Fahrenheit in summer 2007. Fish Creek did not meet the standard of 64.4 degrees in effect upstream of Soda Springs dam. Cedar Creek, a 79-degree stream when shading riparian trees were all removed in the 1970's, is 10 degrees cooler today. High stream temperatures are a mixture of natural causes (some streams never were cooler than the 60 degree temperature criteria), and management causes (removal of trees shading the streams and salvage of down logs in the stream bed). Most streams are naturally warmer than 60 degrees but are also warmer because of riparian and channel disturbance.

Turbidity is not changing on the streams monitored, when compared to recent years during comparable winter flows. Long term monitoring of Steamboat, Canton, and Layng Creeks show that high turbidity in the 1970's has decreased in these streams. In some years, turbidity increased, and then returned to relatively constant levels. Turbidity of the North Umpqua Wild and Scenic River was measured by the US Geological Survey in 2007, but streamflow data for the river below Steamboat is not available yet. The analysis for the North Umpqua River in 2006 is included in this year's report. It shows that winter turbidity was slightly higher than 2002-2005, but still close to the median turbidity measured since 1993. Summer water clarity measured by turbidity (important for fishing and recreation on the river) is the second best on record. On Boulder Creek (a designated Wilderness), turbidity and streamflow have been measured since 1993. The only bridge access to Boulder Creek stream gage and turbidity sampler was destroyed by a falling tree in 2003. The bridge was replaced, and the turbidity analysis for 2006 and 2007 is

included in this report. Results show similar turbidity to 1993-2003. Turbidity of Layng Creek, the municipal water supply for the city of Cottage Grove, was measured in 2007, but streamflow for the analysis in not available. The turbidity analysis for Layng Creek will be included in the 2008 Forest Monitoring Report. Turbidity in 2005-2006 was within the range of variability since 1980, and lower than turbidity in 1977-1979 when concern over very turbid winter flows caused the annual monitoring program to begin.

Soil productivity monitoring shows how timber harvest practices maintain soil characteristics and organic matter, or recommend ways to improve them. No soil productivity reports were completed in 2007.

In July and August 2001-2006, 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 were only taken monthly during summer until 2001. This monitoring needs to be a part of the Forest Monitoring Plan. The Umpqua National Forest did weekly May-September early warning measurement of algae and public health risks at Diamond Lake from 2002 through 2007. 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 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, 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. Monitoring continued in 2007. Monitoring reports by the Umpqua National Forest, Portland State University are available on the Forest's public web site: http://www.fs.fed.us/r6/umpqua/projects/projectdocs/diamondlkresto/index.shtml.

The Oregon Department of Fish and Wildlife also monitors water quality and aquatic life in Diamond Lake. Results of 2006 and 2007 monitoring is available at: http://www.dfw.state.or.us/fish/diamond_lake/monitoring.asp.

See Attachments for graphs of stream temperature and turbidity.

Amendments

Soil and Water elements should be amended in the Umpqua LRMP Monitoring Plan. Districts cannot always write Best Management Plan Checklists on every ground-disturbing activity. One solution is to amend the plan to require that a sample of activities have BMP monitoring. The monitoring could be randomly assigned, and done on a standardized form for that activity (timber sale, grazing allotment, road construction). A draft BMP monitoring amendment was completed in 2006, but the Plan has not been amended.

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, as the Northwest Forest Plan eliminated the need for that monitoring by establishing riparian reserves.

A Monitoring Plan Element should be added to monitor algae blooms and risks to public health on Diamond Lake, where potentially harmful blooms have occurred since 2001, and to 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

- The Forest Plan should be amended to monitor BMPs on selected activities, remove monitoring elements that no longer apply, and add monitoring elements for blue-green algae in some lakes. Until then, the Monitoring Plan requires Best Management Practice Checklists on every ground-disturbing activity. Ranger Districts should continue monitoring in order to be in compliance with the Clean Water Act and the Memorandum of Understanding with Oregon DEQ.
- 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. When the City of Cottage Grove stops using Layng Creek at a water source, monitoring should stop. Until then, 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 the Forest should assess the soils workload. 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, and past activities).
- 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 NEPA, the Clean Water Act, NFMA, and monitoring commitments to our partners. The Forest should give water quality and fish habitat and population monitoring the highest priority for funding with NFIM (Inventory and Monitoring) and other funds.

Timber and Vegetation Management

What monitoring did we do in 2007?

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 2007?

Reforestation during the 2007 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 primary species planted although ponderosa pine, sugar pine and western white pine were also planted.

First-year seedling survival (Douglas-fir) is up to 77% from the 71% reported for 2006 (Table 4). Third-year seedling survival and success decreased for the 2007 growing season.

Reforestation needs are being met primarily through the appropriated silviculture program funding although KV and Title II have funded some planting activities. Identified reforestation needs in the burned areas are anticipated to be completed in 2010 based on the level of funding from the Region. Currently there are 4,813 acres of reforestation needs identified which is an increase over our reforestation needs of 3,930 in 2006 despite planting 1,956 acres this past field season. Some of this increase is due to reforestation failures on tougher sites inside the fire areas. The Forest will look at criteria for replanting and perform field reviews this field season to evaluate further investment on some of these harsher sites.

The Forest continues to have a substantial backload of plantations in need of thinning, pruning, or other stand improvements. Current timber stand improvement needs identified in the Forest Activities Tracking System (FACTS) database are 35,626 acres. Timber stand improvement activities of release, pruning and pre-commercial thinning occurred on approximately 1,671 acres during fiscal year 2007 representing an increase from 2006. Most of these acres were funded through timber sale receipts in stewardship contracts and Title II funds.

Table 4. Silvicultural activities in FY 2007.

Activity	FY 07
Acres Planted during fiscal year	1,956 acres
Seedling survival after first growing season (previous year)	77%
Seedling survival after third growing season (planted 3 years prior to survey shown)	82%

Amendments

No amendments are recommended at this time.

Recommendations

- Continue to closely monitor stock quality, production and handling practices to improve tree survival rates for Douglas-fir.
- Increase the internal leveraging of HF funds for mechanical fuels treatments in young stands needing stand density treatments.
- Prioritize pre-commercial thinning higher in KV Plans when opportunities are identified within sale areas to deal with a 20,000 acre backlog of PCT needs.

Transportation System

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

What monitoring did we do in 2007?

Element # 27 - Traffic volume on ten high-use sites was collected. Traffic data was collected for 2007. However, this data has yet to be reduced and analyzed 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 2007?

Element #27:

Table 5 is a summary of the miles of road by operational maintenance level at the end of fiscal year 2007 on the Forest. This differs from previous reporting by objective maintenance level, but better represents actual conditions.

Table 5. Road Miles by Maintenance Level.

	ML 1	ML 2	ML 3	ML 4	ML 5	Total Miles
Total	1,221.1	3,038.8	367.5	131.9	38.9	4,798.2
Subject to Highway Safety Act						538.3 (11.2%)
Not Subject to Highway Safety Act						4,259.9 (88.8%)

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 2007?

The Aesthetics Management Plan, completed in 2004 by PacifiCorp on the North Umpqua Hydroelectric Project, FERC Project No. 1927, as per the Settlement Agreement, continued to be implemented. Projects for fisheries enhancement, including rock augmentation into the North Umpqua River, the Clearwater Connect and the Soda Springs Dam Tailrace project continue to be monitored. The landscape designs for Pacific Power's Toketee Administrative Site were implemented with ongoing technical assistance and review by the Forest Landscape Architect and District Botanist. Plant survival continues to be monitored. Fish passage on Soda Springs Dam was in the design process by PacifiCorp with reviews by Forest specialists.

Informal field monitoring was conducted in selected viewsheds across the Forest including the North Umpqua River Canyon, the Rogue-Umpqua National Scenic Byway, the Lemolo Lake and Diamond Lake Recreation Composites and in winter recreation use areas along major travel ways.

What did we learn in 2007?

The Visual Resource Condition across the Forest is largely unchanged from 2006, as far as timber management activities. No major catastrophic events have occurred within the major viewsheds. 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 2007.

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 has had beneficial effects on scenic quality and enhanced the visitor experience.

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 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 huge deficits in the scenic conditions of those areas.

Amendments

No amendments are recommended at this time.

Recommendations

- 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 2007?

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

What did we learn in 2007?

Boating use has stabilized at a near ten-year average use level (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

Year	Noncommercial Adjusted Use	Commercial Reported Use	Total Adjusted Use
2004	4,511	2,125	6,636
2005	4,229	2,130	6,359
2006	3,766	2,344	6,110
2007	3,484	1,982	5,466

Craft and Boat Launch Use: Data was queried to show the types of watercrafts used to float the river. During the 2007 boating season, inflatable rafts outnumbered other crafts on the river (See Table 7).

Table 7. 2007 Comparison of Watercrafts Observed per Month.

Month	Raft	Hard Kayak	Inflatable Kayak	Canoe
May	108	95	53	1
June	176	100	104	6
July	238	91	205	8
August	65	18	35	3
September	6	3	20	1
Total	593	307	417	19

The data was queried to show a breakdown of the put-in areas and take-out areas. Boulder Flat and was the most heavily used put-in area (2,201 user days). The most frequent take-out area was Gravel Bin (2,757 user days).

Amendments

No amendments are recommended at this time.

Recommendations

- Continue present direction and monitoring.

Wilderness

Element # 31- Wilderness Condition

What monitoring did we do in 2007?

Boulder Creek and Mt. Thielsen Wildernesses: Limited patrols monitored the Boulder Creek Wilderness and Mt. Thielsen Wilderness.

Rogue Umpqua Divide Wilderness: In 2007, there were fifteen wilderness patrols.

What did we learn in 2007?

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 PCT trail and trails 1456 and 1459. No incidents of unauthorized use were discovered or reported. Limited wilderness patrols noted no change from previous condition.

Rogue-Umpqua Divide Wilderness: Fifteen wilderness patrols were conducted from May to October, primarily in Fish, Cliff and Buckeye Lakes areas. 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 20 bags of garbage, plastic, rafts, inner tubes, and related items were packed out on pack frames.

Encounters: The party size standard was observed to be within standard during patrols. Party size was exceeded at least one time by an over-sized group to Cliff and Buckeye lakes area.

Group Size: About 95% of lakes campsites exceed the 200 feet from water and trails standard. One over-size school group was permitted for a day visit to Fish Lake.

Campsite Location: About 95% of campsites near lakes exceed the 200 feet from water and trails standard. It continued to be a challenge to keep people off of the rehabilitation campsite at Fish Lake.

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

Livestock: No violations noted.

Waivers: Two equipment waivers were issued for Search and Rescue and aircraft wreckage removal on Rocky Ridge. Two were issued for fires in the upper Jackson Creek drainage.

Coordination Meetings: None.

A total of 160 Voluntary Registration forms were filled out at the following trailheads:

- Fish Lake TH – 26;
- Skimmerhorn TH – 60;
- Beaver Swamp TH – 74.

Other: It is an ongoing challenge to keep people off of the rehabilitated campsite at Fish Lake.

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

Kincaid's Lupine

What monitoring did we do in 2007?

Kincaid's lupine was listed in 2000 and critical habitat was designated in 2006. Douglas County populations were excluded from designated critical habitat. The southernmost population of this species occurs on the Tiller Ranger District, it is the only known site on the Umpqua NF. A Conservation Agreement with US Fish & Wildlife Service, the Roseburg District of the BLM and the Umpqua NF was signed in 2006 and a management plan is currently in progress. A monitoring plan will be implemented as a component of the management plan.

Previous data and analysis is maintained at the Supervisor's Office with copies at the Tiller Ranger District.

What did we learn in 2007?

Monitoring is pending completion of the management plan.

Recommendations

None at this time.

Umpqua kalmiopsis

What monitoring did we do in 2007?

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 Umpqua kalmiopsis was monitored in 2007. This monitoring continues the effort that was initiated in 2004-2005. Percent cover was evaluated through digital photography analysis using SigmaScan Pro5 software. 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 2007?

Cover of Umpqua kalmiopsis continues to increase at the Ash Creek (burned in 2002) and the Dry Creek (burned in 1996) sites (Table 8). The control area (Site 526) displayed a slight, non-significant decrease in cover due to herbivory. Number of flowers is higher at both of the recently burned sites compared to the control (Figure 3). This is attributed to a combination of shade and herbivory. There continue to be a complete absence of seedlings and juvenile plants observed at any site. Plants germinated from seed in the Oregon State University greenhouse continue to thrive, particularly those grown from a medium amended with native soil.

Table 8. Change in Umpqua kalmiopsis cover between site 526 (control), Ash Creek (burned 2002) and Dry Creek (burned 1996).

	526 (unburned)	Ash Creek	Dry Creek
Mean change	-2.2% ± 3.8%	9.1% ± 3.1%	2.8% ± 1.0%
Range of values	-32.0% to 8.1%	-5.4% to 28.4%	-3.7% to 7.9%

(n = 10 plots/site, displayed errors were calculated as standard errors of the mean.)

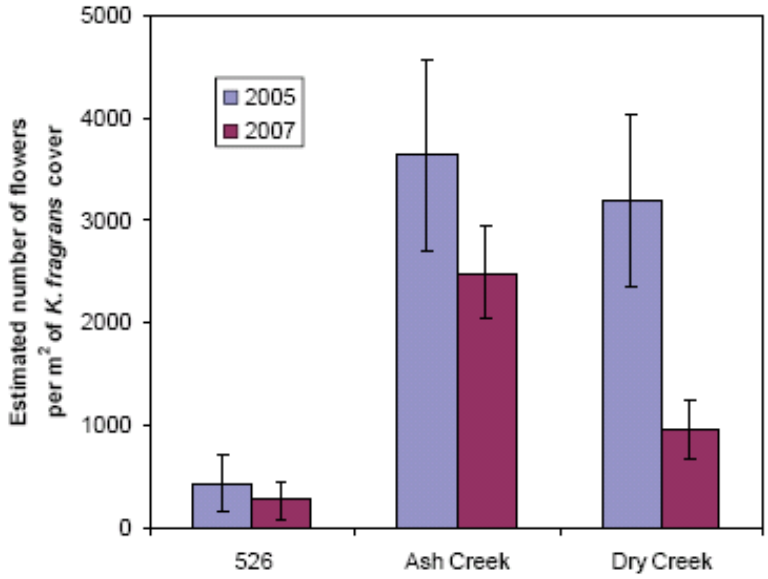


Figure 3. Change in number of Umpqua kalmiopsis flowers at each of the monitored sites between 2005 and 2007.

Recommendations

- Continue monitoring permanent plots established at two recently burned sites (Ash Creek and Dry Creek) and one unburned site (526).
- Quantify differences among sites by evaluating soil characteristics (pH, nutrient levels, particle size), light levels and associated vegetation at the three sites.
- Revisit K. fragrans populations included in research completed prior to the current study (i.e. Marquis 1977 and Carlson and Meinke 1998) in order to evaluate changes in these sites based on previously reported data.
- Design and implement an herbivore exclusion experiment to determine to what extent herbivory affects the growth and reproduction of Kalmiopsis fragrans plants at the Dry Creek site.
- Continue germination research by using field trials to evaluate the ability of seeds to germinate under various outdoor conditions.
- Use cultivated plants to evaluate heterostyly, and complete additional pollination studies on K.fragrans and K. leachiana.

Umpqua mariposa lily

What monitoring did we do in 2007?

Umpqua mariposa lily (Calochortus umpquaensis) occurs only on 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 has been applied to two populations since 2002. In addition, through a partnership with the Berry Botanical Garden, experimental outplanting of mariposa lily seedlings into restored

habitat was initiated in 2007. Data and analysis is maintained at the Supervisor's Office with copies at the Tiller Ranger District.

What did we learn in 2007?

Populations of Umpqua mariposa lily displayed a marked recovery in 2007 over the previous two year's decline (Figure 4). This upward trend appears to be driven by habitat restoration activities. Both the untreated plots and treated plots continue to exhibit improvement but the controls have increased 24% while the treated plots exhibit a 125% increase (Figure 5). The Callahan Ridge population, where no habitat improvement activities have occurred, displays a slight downward trend although the population rebounded in 2007 over last year's dip.

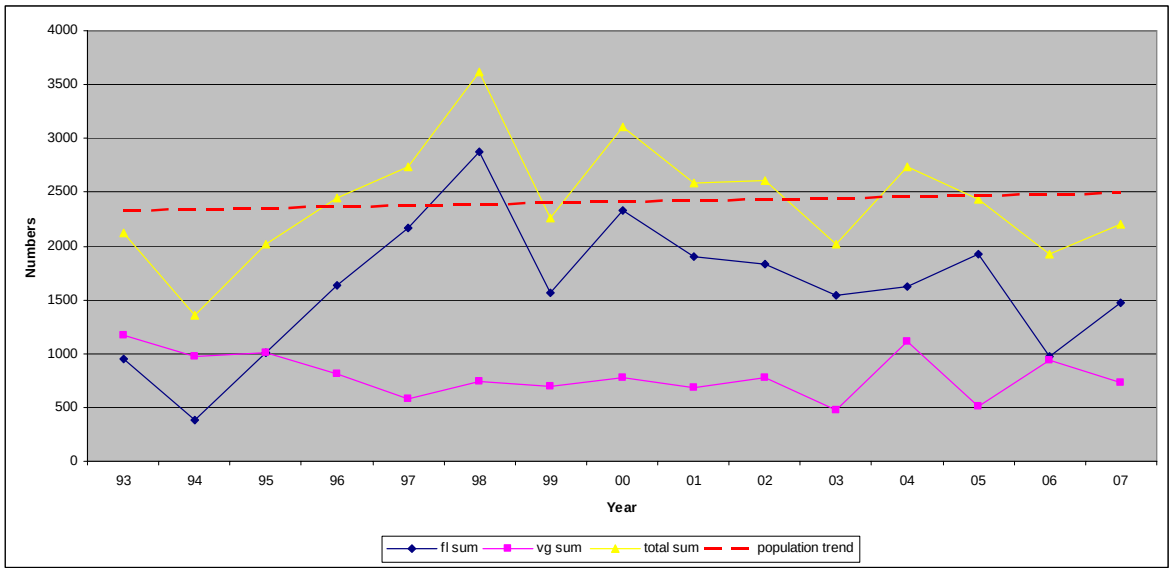


Figure 4. Population trend of Umpqua mariposa lily, 1993-2007.

Umpqua mariposa lily has responded positively to all treatments although the plots that were thinned but not burned have increased less than the controls (Figure 5).

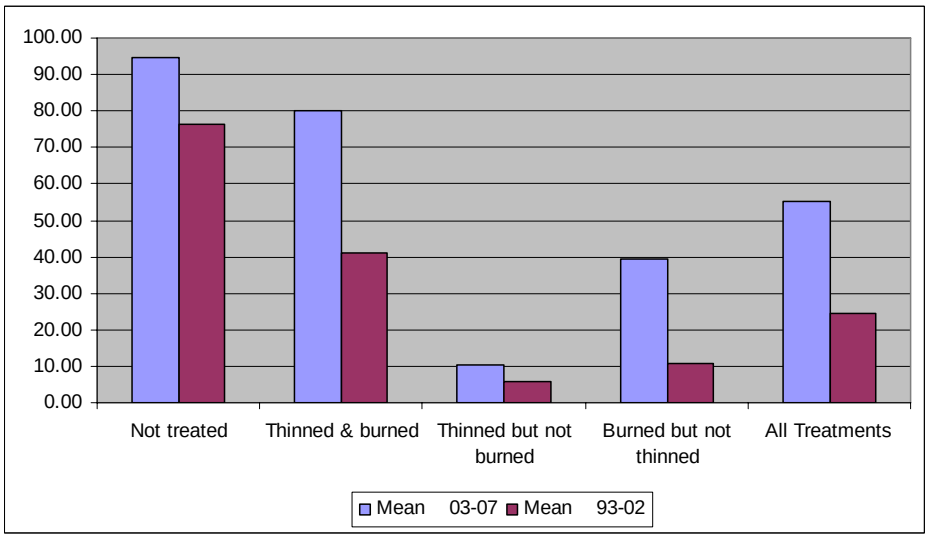


Figure 5. Umpqua mariposa lily, comparison of treatment vs. control plots.

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 2007?

There is only one population of Clustered lady-slipper (Cypripedium fasciculatum) on the Umpqua National Forest. This one occurrence is in a campground along the North Umpqua River. Monitoring was initiated in 1993. Data and analysis is maintained at the Supervisor's Office with copies at the North Umpqua Ranger District.

What did we learn in 2007?

This year marked the fewest number of Clustered lady-slipper plants ever recorded (Figure 6). These data also continue to 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 2003-2007 time period (Figure 7). 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 campground was closed for the early spring season, suggesting that competing vegetation may be the primary factor. This is consistent with observed habitat relationships with this and other species of lady-slipper.

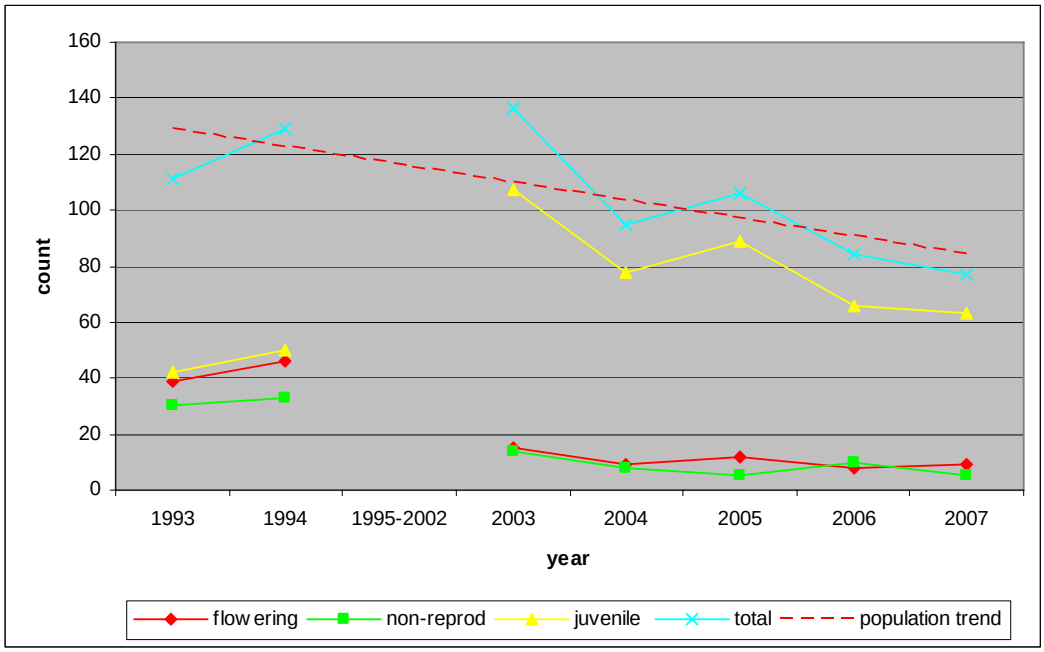


Figure 6. Population trend of clustered lady-slipper.

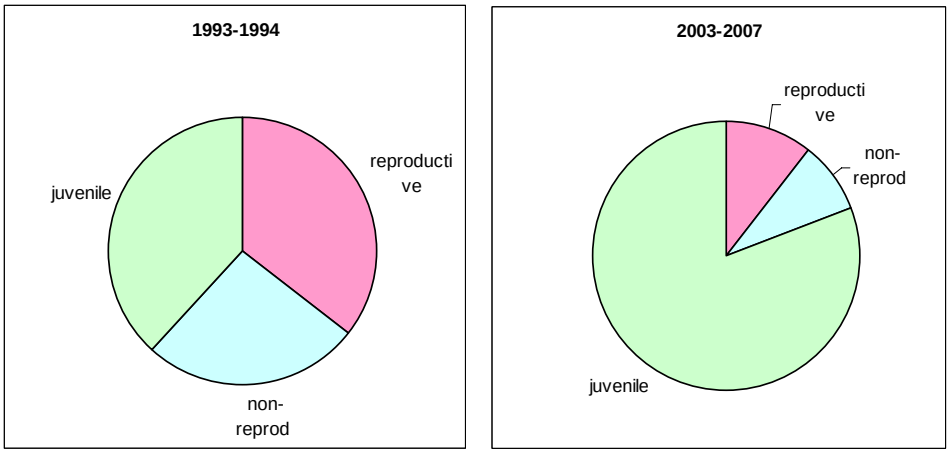


Figure 7. Demographic shift in the clustered ladyslipper population between 1993-94 and 2003-07 period.

Recommendations

- Habitat improvement potential should be investigated.

Umpqua swertia and Tall bugbane

What monitoring did we do in 2007?

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. 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.

Neither species was monitored in 2007 due to shortage of personnel. Previous Data and analysis is maintained at the Supervisor's Office with copies at the Tiller Ranger District.

What did we learn in 2007?

Neither species was monitored in 2007 due to shortage of personnel.

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 2007?

The third year of a proposed five-year monitoring study was completed in Late Successional Reserve RO-222 on the Tiller Ranger District. This monitoring was proposed and funded by the

USFWS to determine effects forest management activities designed to reduce fuels and thin stands may have on owls. The survey includes areas within the Straight, Dumont, Slick, Boulder, and Zinc Creek drainages as well as part of the South Umpqua River drainage. Surveys follow the protocol set forth in the Northern Spotted Owl Effectiveness Monitoring Plan for the Northwest Forest Plan (Lint et al. 1999).

What did we learn in 2007?

Spotted owl nighttime responses were inconsistent early in the survey period. Responses began to increase later in the breeding season, with most responses heard in July and early August. Most daytime follow-ups were unsuccessful, as birds heard at night were unresponsive during the day. Owls that did respond showed little to no interest in the mice offered, which was consistent with mousing attempts in previous years. There were only two sites where an owl was located and moused on a daytime follow-up visit. At both sites the male would not take a mouse and showed no inclination to take one to either a female or young, although at one site a female was heard in the distance. This was the only time a male and female were seen or heard; even during night surveys there were no paired responses from spotted owls.

Responses were heard in thirteen different locations within the study area. No paired responses were heard nor were any juveniles observed this field season. Spotted owls are not as responsive to calls when they are not nesting or when barred owls are present. It should be noted that barred owls were heard in five different locations during 2007 and that four of these responses were in the same vicinity where spotted owls were also heard during surveys.

Recommendations

- Discontinue the survey for the remaining two years of the study proposal, as no spotted owls are being located for banding during daytime follow-ups. Analyze data collected to date, reporting to USFWS on the results of this analysis.

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 2007?

No NFIM dollars were available in 2007 to conduct monitoring associated with this resource element. NFWF dollars were used to coordinate with ODFW on their annual elk and deer census. This census covers a wider area than the Forest. The Forest utilizes the data from the Indigo and Dixon wildlife management units (Figure 8).

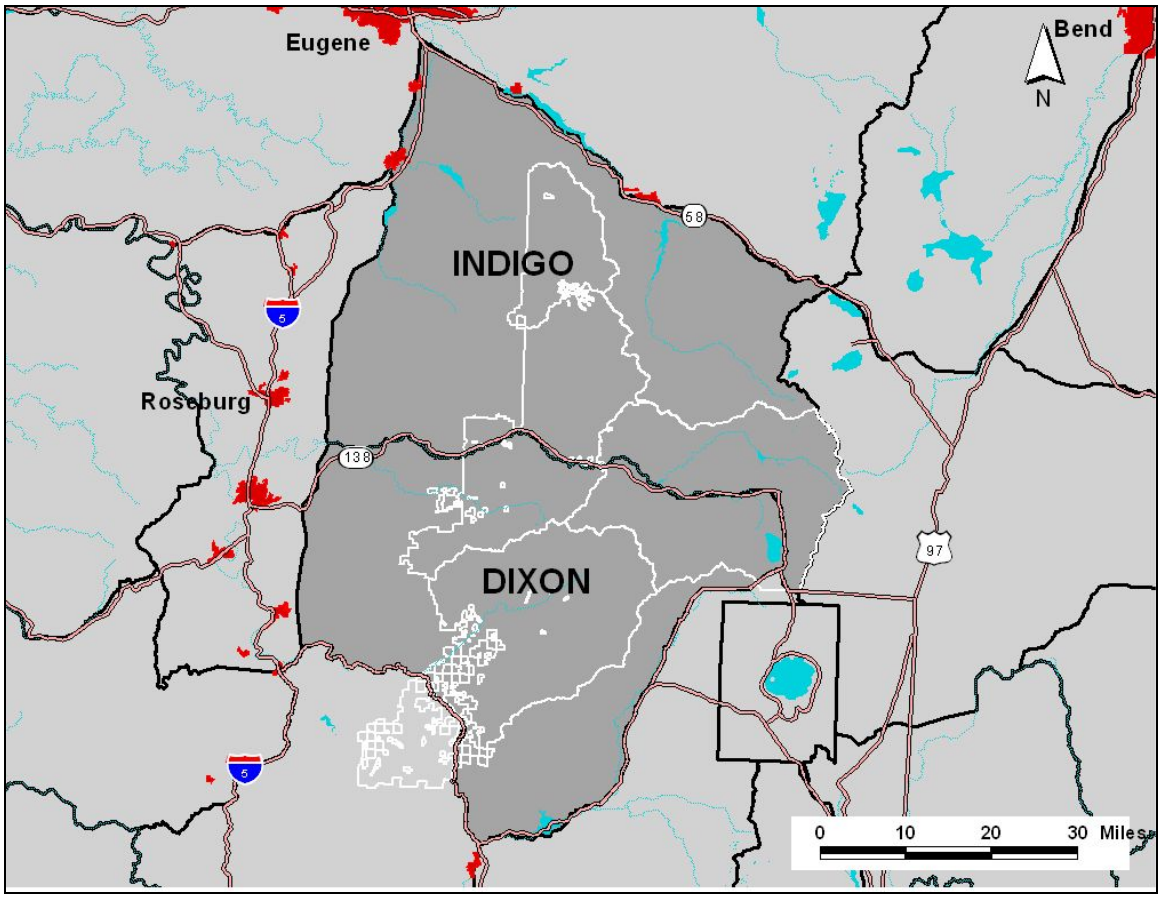


Figure 8. The Dixon and Indigo wildlife management units in relationship to the Umpqua National Forest.

What did we learn in 2007?

Trend data is being analyzed by ODFW. While data from 2007 is not yet available, it should be noted that past monitoring indicates that elk trends appear to be declining statewide, and is thought to be caused by decreasing amounts of forage habitat. Deer trend data prior to 2007 also indicates population declines.

Recommendations

- Continue to coordinate with ODFW to monitor trends. Provide forage habitat where possible.

Resource Element - Sensitive Animals - Townsend's Big-Eared 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 2007?

No NFIM dollars were available in 2007 to conduct monitoring associated with this resource element. NFWF dollars were used to conduct annual exit counts in a collaborative partnership with ODFW. In previous years Townsend's bats have been monitored at three sites on the Forest. Because of the lack of funding, only two of our sites were monitored in 2007.

What did we learn in 2007?

The main maternal colony site located on the North Umpqua RD was monitored through an exit count. This site has been monitored since 1990 in late July or early August. Some years were not monitored because of other priorities such as fire. Results of this monitoring indicate the population is stable and this continues to be an important site for Townsend's bats (Figure 9).

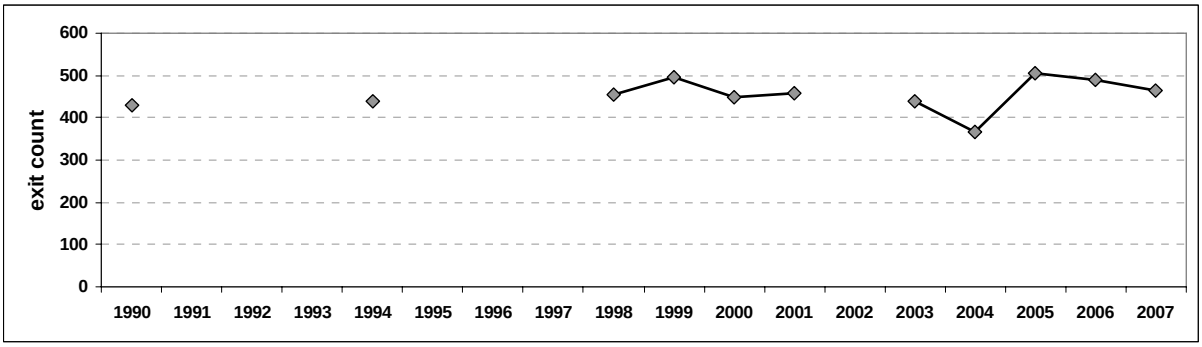


Figure 9. Annual exit counts for maternal colony on North Umpqua RD.

Micro-climate and bat activity data is not yet analyzed. One exit count survey was conducted at the Diamond Lake RD site. Fifty-five bats were observed, a higher number than in previous years. The lock on the cave gate was cut in 2006 and has not yet been repaired.

A Forest-wide cave management plan has been completed that allows these sites to be protected. It is expected there will be continued occupancy at these sites with the potential for successful reproduction.

Recommendations

- Continue to conduct annual exit counts to determine population trends.
- Conduct surveys of caves that have a high potential for occupancy by this species. Replace the lock at Diamond Lake with a sturdier type of lock.

Resource Element - Sensitive 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 2007?

No NFIM dollars were available in 2007 to conduct monitoring associated with this resource element. Population surveys according to protocol were not done, although informal basking counts using NFWF dollars were conducted at a western pond turtle site on the Diamond Lake Ranger District. Limited nest monitoring was also conducted at this site.

What did we learn in 2007?

It was noted that the turtles started nesting earlier in 2007 and the count was slightly lower than in previous years, but as the survey effort was not as intensive there is no reason to believe that this population has declined. Informal basking count surveys were also conducted at this site and fewer turtles were observed. Again, the survey effort was not as intensive. Mowing an adjacent area to create additional nesting habitat was completed but this area was not utilized in 2007.

On the Tiller Ranger District placement of boulders for nest site protection at a recreation site was completed, as per the recommendations in the 2006 monitoring report. This site was not monitored in 2007 and so the success of this site protection measure is unknown.

Recommendations

- Monitor known populations of western pond turtles on the forest to determine habitat use and population trends. Identify areas of potential pond turtle use for survey and monitoring. Protect known sites from predation.
- Continue to protect the Tiller site from predation and from habitat disturbance by the public utilizing the recreation site. Improve and restore habitat for the western pond turtle at this site. A proposal for this habitat protection project has been prepared.

Resource Element - Bald Eagles

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

What monitoring did we do in 2007?

No NFIM dollars were available in 2007 to conduct monitoring associated with this resource element. NFWF dollars were used to survey the four known bald eagle sites on the forest.

What did we learn in 2007?

All known sites continue to be occupied by bald eagles. Adult mortality at one of our sites was documented during the latter part of 2006. Early in 2007 two birds were observed at this site although later in the breeding season only one bird was seen. Reproduction in 2007 was down from previous years. One site successfully fledged two young and the remaining sites were occupied by at least one adult.

Bald eagles continue to be observed along the North Umpqua River. It is believed that a pair is nesting along the river corridor although this has not yet been confirmed.

Recommendations

- Continue to monitor all known eagle sites for occupancy and reproductive success.
- Conduct surveys along the North Umpqua River to confirm the probable nest location of the bald eagle pair utilizing the river corridor.
- Update site management plans.

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 2007?

No NFIM dollars were available in 2007 to conduct monitoring associated with this resource element. NFWF dollars were used to monitor peregrine falcon sites. Thirteen of fourteen known falcon sites were monitored in 2007; the exception was a site located in a wilderness area.

What did we learn in 2007?

At least one peregrine falcon was observed at eleven of the thirteen sites that were monitored in 2007 (Table 9). Of the eleven sites with falcon presence, ten sites successfully fledged young. Two sites that have fledged young in previous years were not occupied, as no falcons were

observed. There are two areas on the forest where falcons have been observed but occupancy by a pair has not yet been determined; neither of these sites was surveyed in 2007.

Table 9. Peregrine Falcon Monitoring for FY 2007.

PEREGRINE FALCON 2007		
Eyrie ID	**Status**	**Young Produced**
OE-002	Adult observed	Unknown
OE-003	Pair occupancy	Yes
OE-006	Pair occupancy	Yes
OE-033	Pair occupancy	Yes
OE-055	Pair occupancy	Yes
OE-056	Pair occupancy	Yes
OE-064	Pair occupancy	Yes
OE-065	Pair occupancy	Yes
OE-069	None observed	Unknown
OE-072	Pair occupancy	Yes
OE-104	Pair occupancy	Yes
OE-117	Pair occupancy	Yes
OE-121	None observed	Unknown
OE-122	Not surveyed (wilderness)	Unknown
Site A	Site not monitored	N/A

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

Survey results indicate that peregrine falcons continue to occupy known sites on the forest, although reproduction can vary from year to year. The Umpqua National Forest is considered to be a source population for peregrine falcons in the state of Oregon, 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.

Recommendations

- Continue to monitor all known sites annually to determine occupancy and reproductive status.
- Continue to develop a forest-wide falcon management plan with site-specific recommendations.

Pileated Woodpecker

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

What monitoring did we do in 2007?

Monitoring for this species was incorporated into broader monitoring for primary cavity nesters (see CW1/NFWF 21 below). No NFIM funding was provided for monitoring 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 2007?

No NFIM funding was provided for monitoring this Resource Element. However, Forest Service personnel cooperate with ODFW in conducting annual winter track counts in areas where marten

occur. NFWF dollars were used. Five areas are monitored annually, as staffing, weather and snow conditions allow. These areas are:

1. Lemolo-Kelsay – located on Diamond Lake RD, east of Lemolo Lake to the Kelsay loop.
2. Mt Bailey – located on Diamond Lake RD, along the south and west slopes of Mt Bailey.
3. Warm Springs – located on Diamond Lake RD, west of Lemolo Lake outflow area up to the Calapooya Divide.
4. Huckleberry – located on the Tiller RD on the Rogue/Umpqua Divide
5. Skookum - located on Diamond Lake RD, near Skookum and Fish Mtn.

What did we learn in 2007?

Data collected in 2007 has not yet been analyzed.

Recommendations

- Continue to assist ODFW with winter track counts.

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 2007?

No NFIM dollars were available in 2007 to conduct monitoring associated with this resource element. NFWF dollars were used to conduct the surveys.

Two areas were monitored for landbirds (including cavity nesters). One area was on the Diamond Lake Ranger District and the other in the Apple Fire (2002) area on the North Umpqua Ranger District. In addition to local monitoring, the Forest is beginning to utilize monitoring data from nearby Breeding Bird Survey Routes (Sauer, J. R., J. E. Hines, and J. Fallon. 2005. The North American Breeding Bird Survey, Results and Analysis 1966 - 2005. Version 6.2.2006. USGS Patuxent Wildlife Research Center, Laurel, MD). This national monitoring provides many years of trend data for this area.

Diamond Lake: Volunteers from the local Audubon Society conducted another year of annual monitoring of bird routes on the Diamond Lake Ranger District, although the number of routes surveyed decreased from eleven down to four routes. Six visits were completed for each route, for a total of 24 visits. Presence and abundance of bird species were documented.

North Umpqua: A Breeding Bird Survey (BBS) route was established within the area of the Apple Fire, with surveys conducted along the 21.7 mile route. This BBS route has been surveyed for five consecutive years post-fire and pre/post salvage logging (2003-2007). The route was surveyed two years before logging, two years when logging was being conducted, and one year after logging.

USGS Breeding Bird Surveys: These surveys are an important source of information regarding population trends for cavity nesters (and landbirds in general) on the forest. These BBS routes are part of a large-scale survey of North American birds, which started in 1966. Each BBS route is surveyed once annually in June by experienced birders.

There are two BBS routes located entirely on the forest (Figure 10), while another four routes within 10 air miles of the forest boundary. Names and locations of these six routes are as follows:

- Clearwater – 25 miles on the Umpqua NF
- Cinderella – 25 miles on the Umpqua NF
- Days Creek – 4 miles west of the Tiller RD
- Sams Valley – directly south of Tiller RD
- Warner Mountain - 3 miles east of the North Umpqua RD
- Winberry – 7 miles north of the Cottage Grove RD

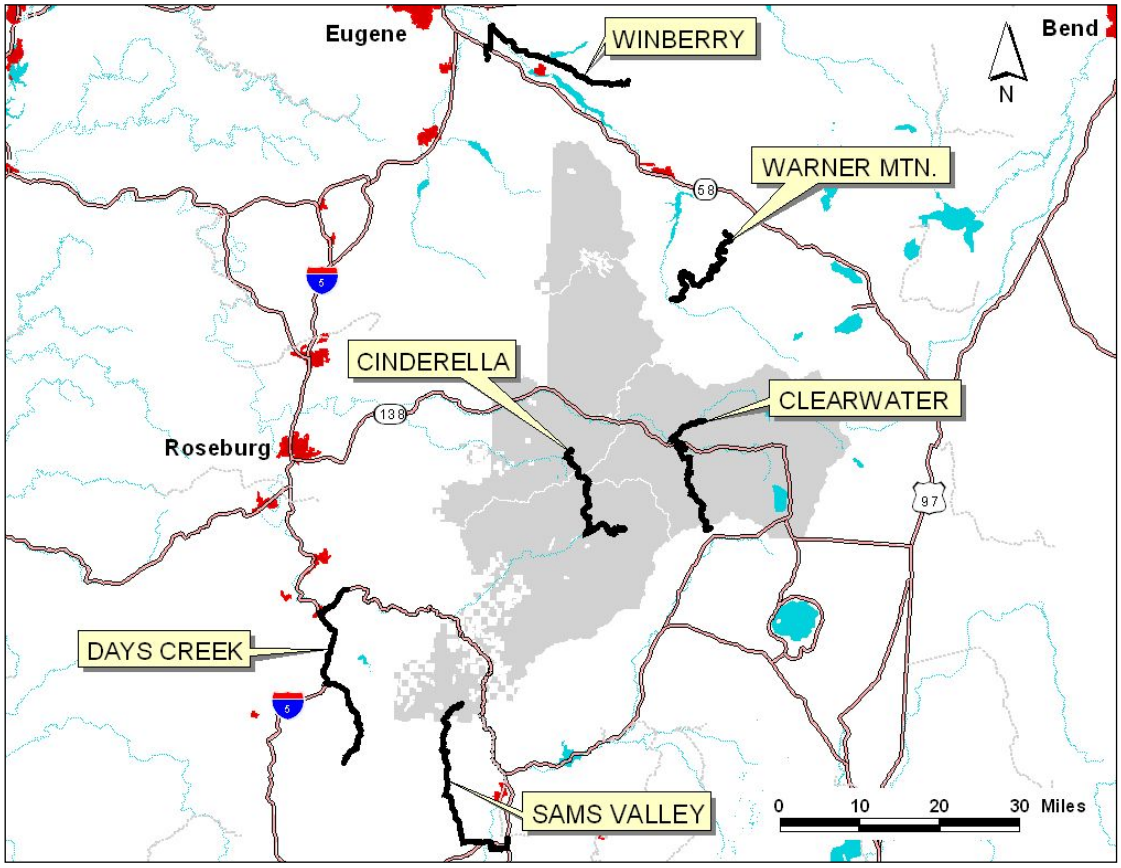


Figure 10. North American breeding bird survey routes on or near the Umpqua NF.

What did we learn in 2007?

The results of the Diamond Lake Ranger District monitoring are currently being entered into a database and have not yet been analyzed.

To date, a total of 68 different bird species have been detected within the Apple Fire area. Species richness has remained stable. The June BBS annual species totals for the Baked Apple monitoring route increased from 39 to 44 species through 2006 but dropped back down to 40 species in 2007. Red-breasted sapsuckers have decreased in the Apple Fire area and were detected again in 2007 after no detections the two previous June surveys. Hairy woodpeckers responded positively to the fire and pulse of snags created by it. Flicker levels have remained

stable. Pileated woodpecker detections have decreased with no detections in last three June surveys (Table 10; Figure 11).

Table 10. Primary cavity nester monitoring data from the Baked Apple Fire monitoring.

Primary Cavity Nesters	1993-2002	2003	2004	2005	2006	2007
Red-breasted Sapsucker	2	3	1	not detected	not detected	1
Hairy Woodpecker	3	5	7	9	3	7
Northern Flicker	6	4	5	4	5	4
Pileated Woodpecker	2	not detected	1	not detected	not detected	not detected

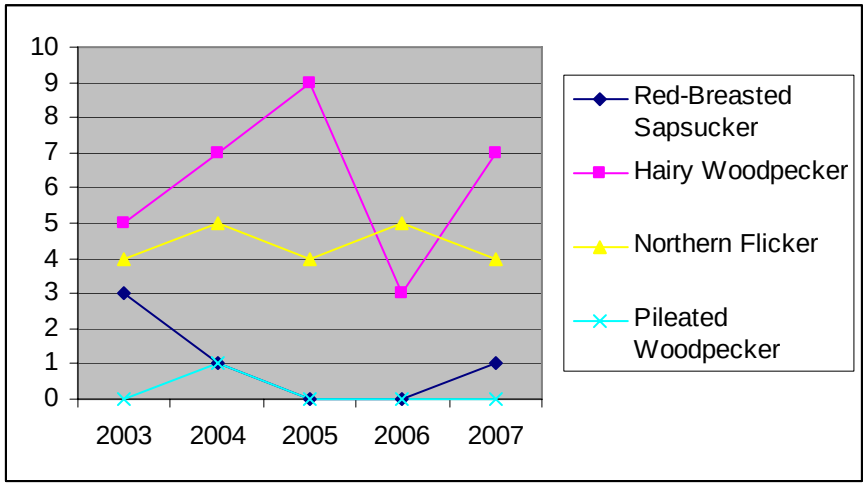


Figure 11. Primary cavity nester monitoring data from the Baked Apple Fire monitoring.

Information about cavity nesters has been collected for at least twelve years along the seven BBS routes. The current trends are shown in Table 11.

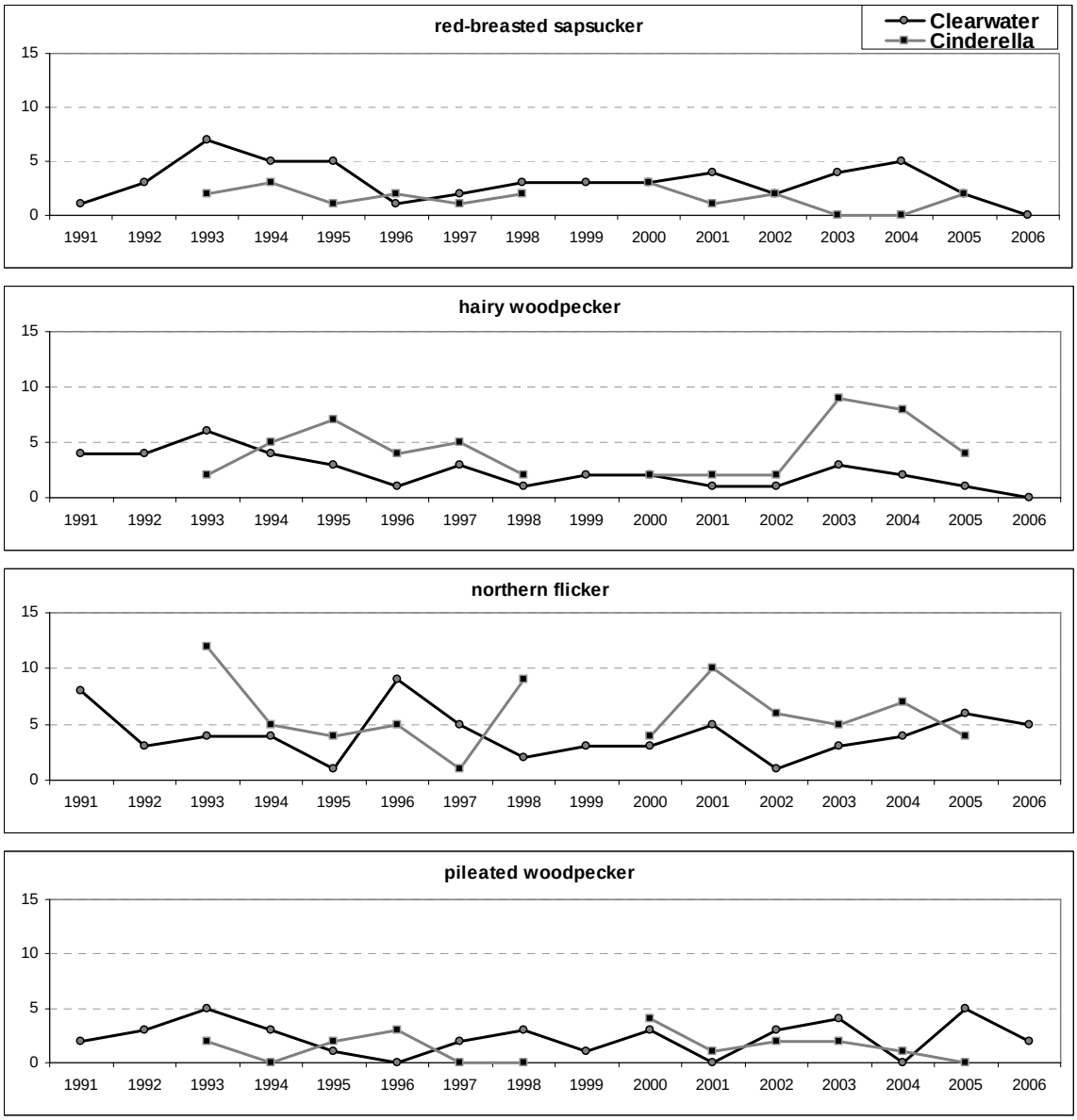
Table 11. Primary cavity nester monitoring data from local BBS routes.

Primary Cavity Nesters	Population Trends					
	Clearwater (1991-2006)	Cinderella (1993-2006)	Days Creek (1971-2006)	Sams Valley (1993-2006)	Warner Mtn (1992-2006)	Winberry (1968-2006)
Red-breasted Sapsucker	↓	↓	↓	↓	↑	↓
Acorn woodpecker	not detected	not detected	↔	↑*	not detected	not detected
Downy Woodpecker	not detected	not detected	↑	↔	not detected	↑
Hairy Woodpecker	↓*	↑	↓	↔	↓	↑
Northern Flicker	↔	↔	↔	↑	↔	↔
Pileated Woodpecker	↔	↔	↑	↑	↓	↑

↔ This symbol indicates a stable trend (≤2% change per year)
↑ This symbol indicates an increasing trend (>2% positive change per year)
↓ This symbol indicates an decreasing trend (>2% negative change per year)
* Statistically significant ($p<0.05$)

Pileated woodpecker and northern flicker populations appear to be stable at the forest-scale. Hairy woodpeckers are decreasing along the Clearwater route (Figure 12). Red-breasted sapsuckers trends are decreasing, but not statistically significant.

Figure 12. Primary cavity nester trends on the Umpqua NF.



Amendments

None at this time for any TES Wildlife Species.

Recommendations

- Continue monitoring long term trends from BBS data, where possible, continue project specific monitoring, such as the Baked Apple Fire Salvage monitoring.

- Encourage research community to focus their efforts on local studies that explore land management effects on land birds.
- Amend the Umpqua National Forest Plan to integrate new information and management recommendations outlined in DecAID and the Conservation Strategy for Landbirds in Coniferous Forests of Western Oregon and Washington.

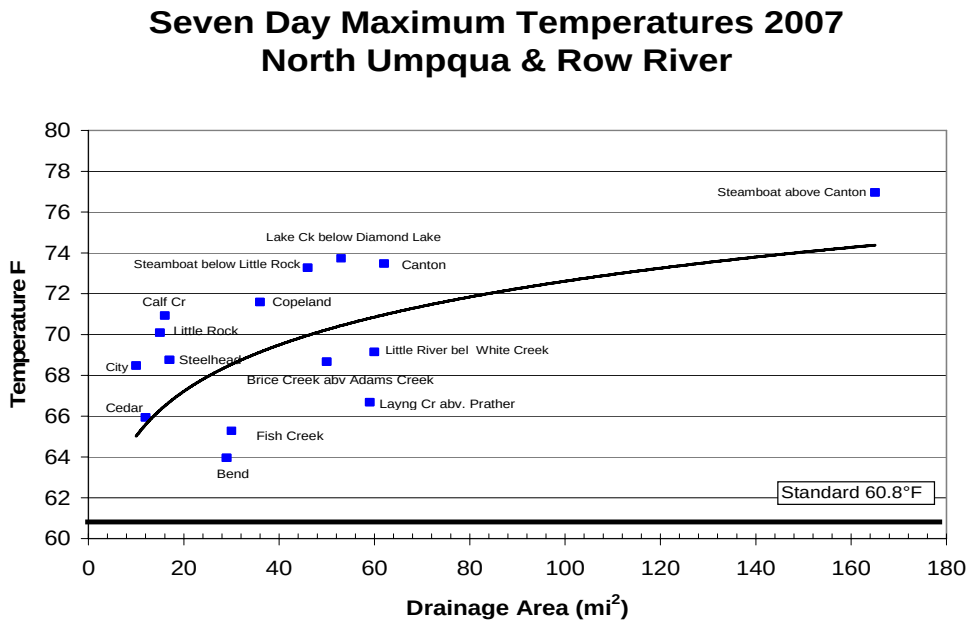
Appendix A - Attachments

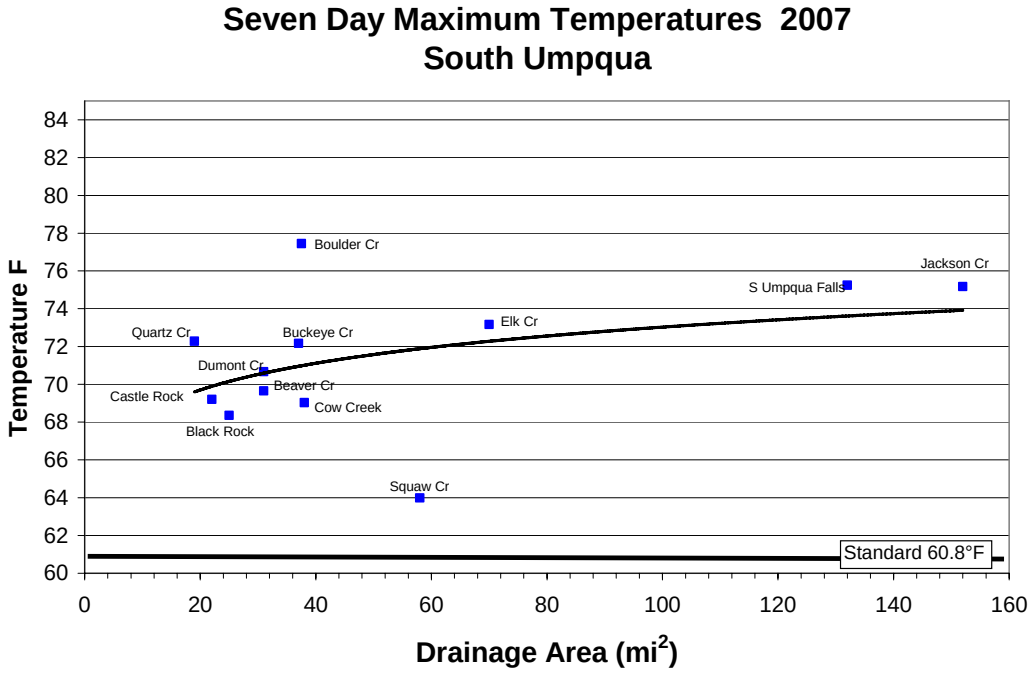
1. **Best Management Practices Table**
2. **Temperature Graphs**
3. **Turbidity Flow Graphs**

1. Fiscal Year 2007 BMP Checklists

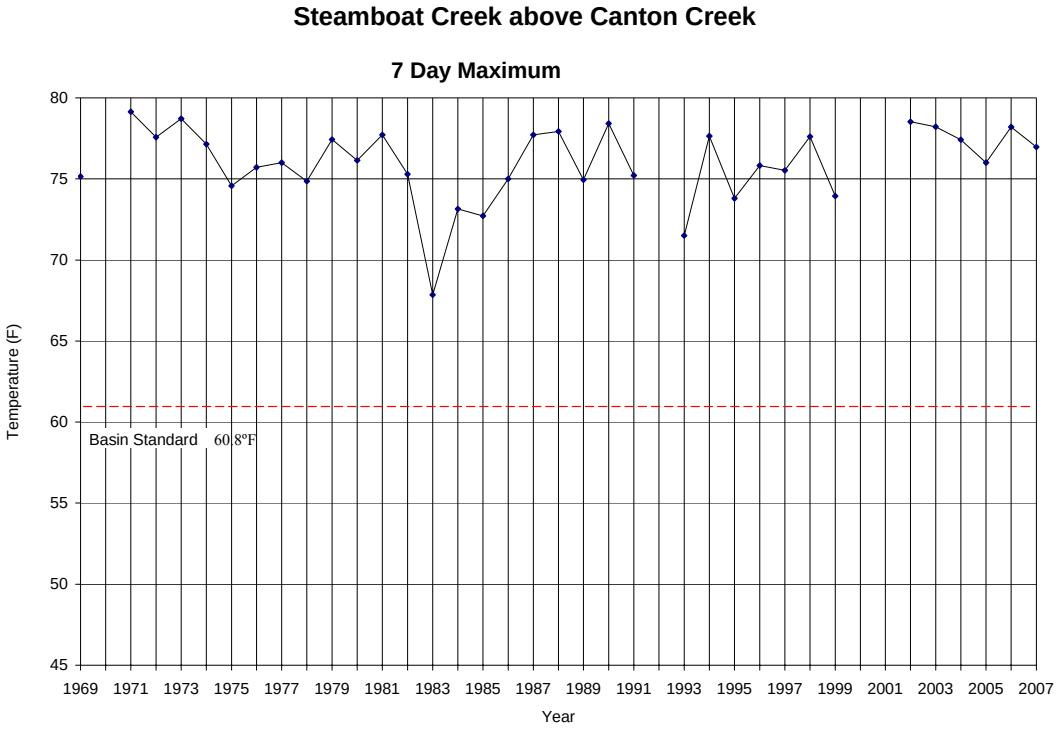
Ranger District	Environmental Documents signed For Ground-Disturbing Activities	Best Management Practice Checklists	Percent of Projects With BMP Checklists
Cottage Grove	1	1	**100%**
Tiller	8	8	**100%**
Diamond Lake	4	2	**50%**
North Umpqua	3	1	**33%**
Timber Planning Team	1	1	**100%**
Forest	17	13	**76%**

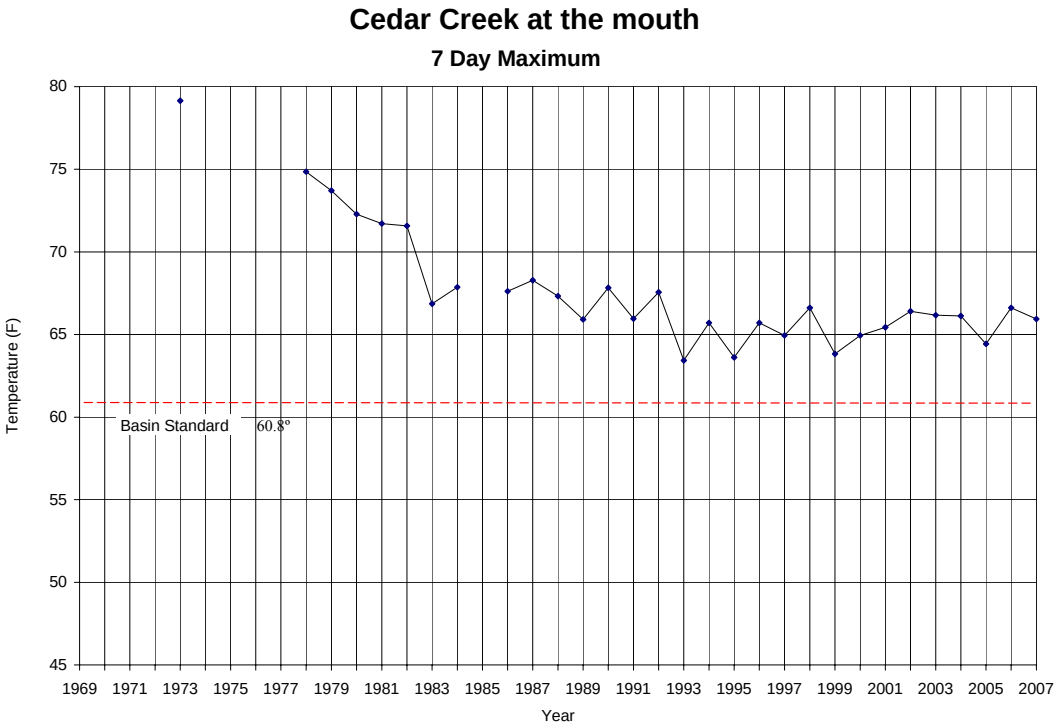
2. Temperature Graphs for the and North Umpqua, Row, and South Umpqua Rivers



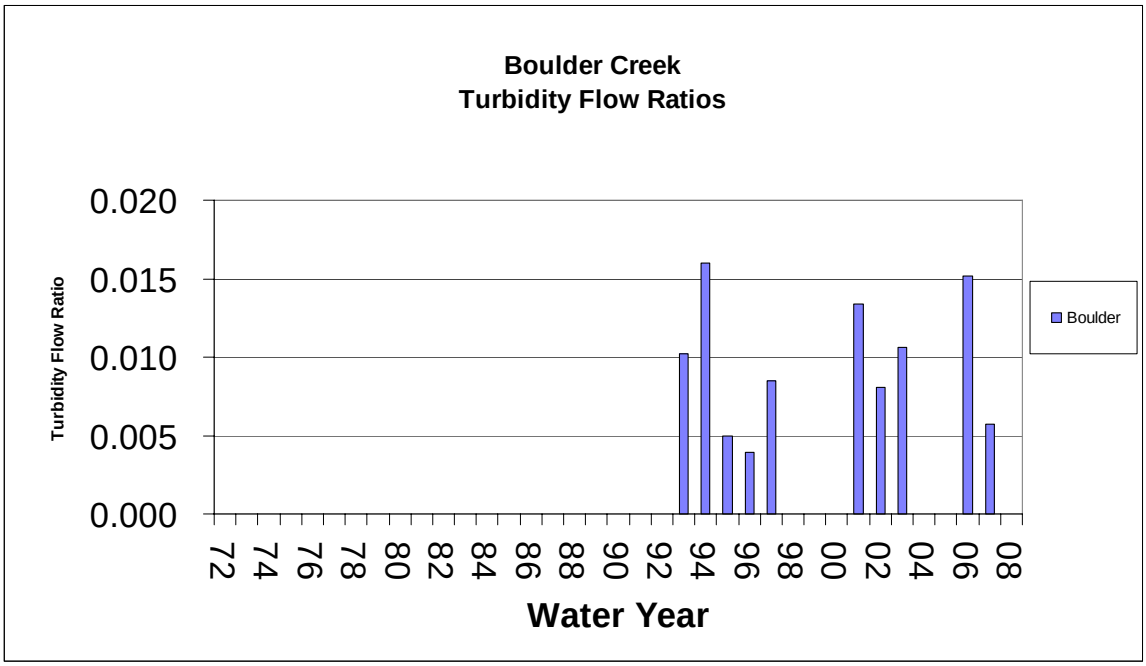


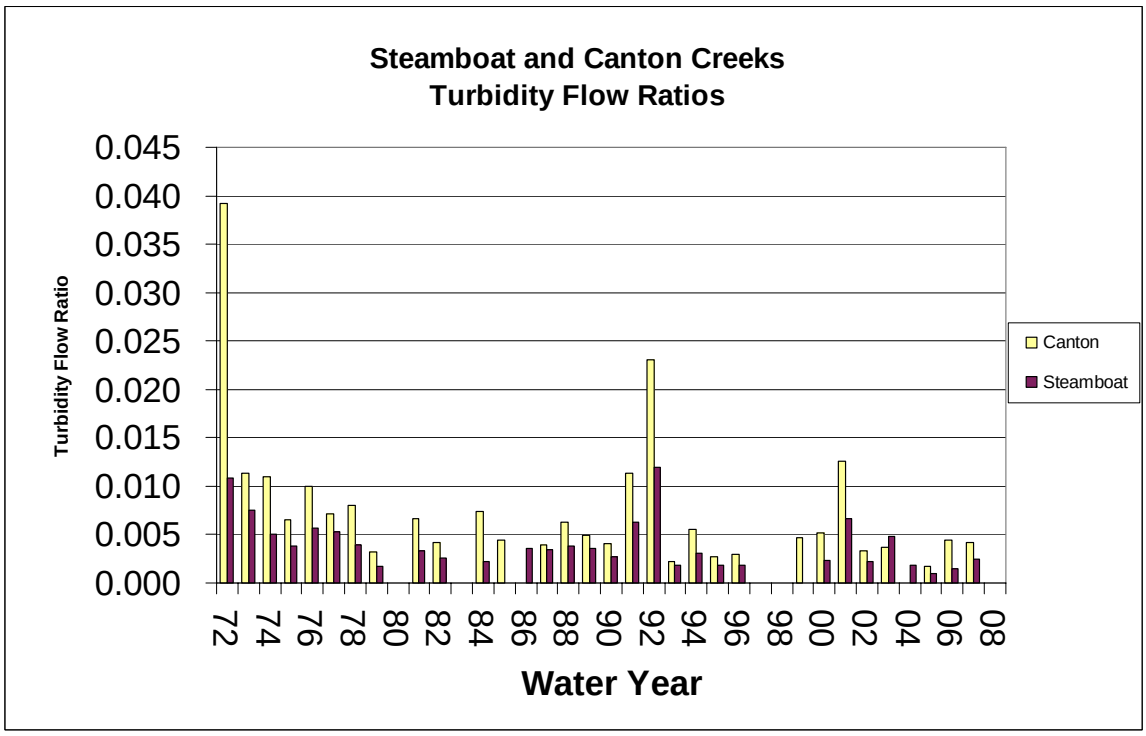
Temperature Graphs for Steamboat Creek above Canton Creek and Cedar Creek.





3. Turbidity Flow Ratio's for Boulder Creek, Steamboat Creek, Canton Creek, and Layng Creek.





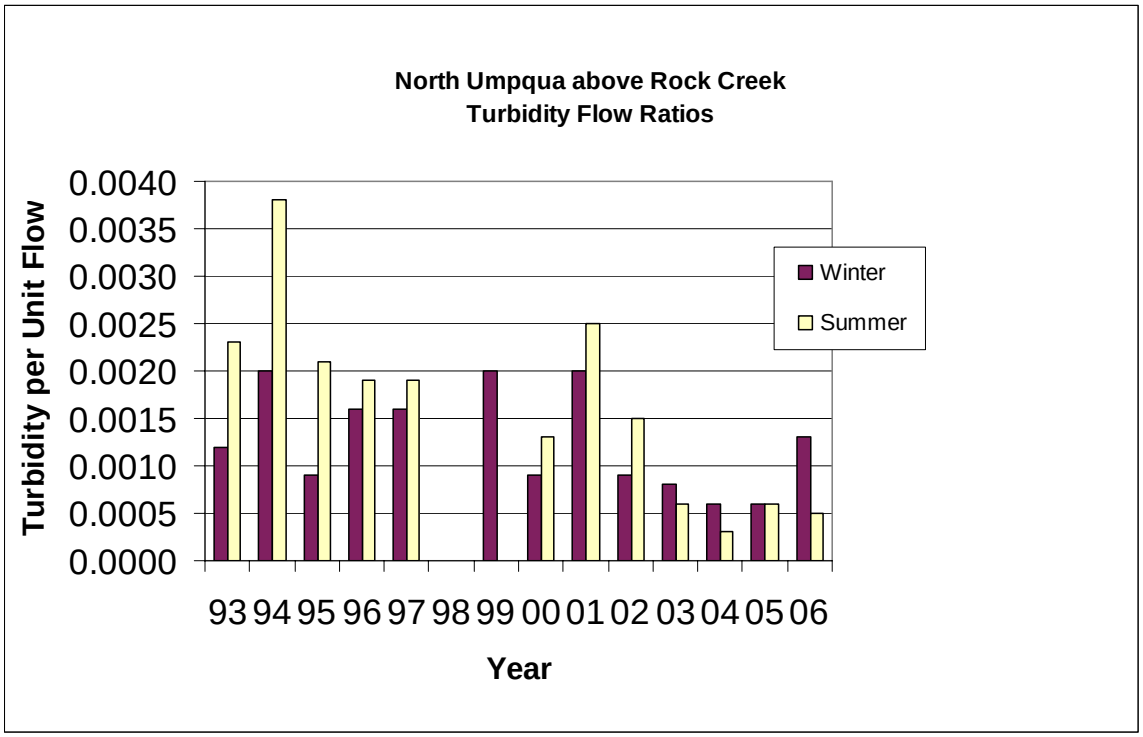
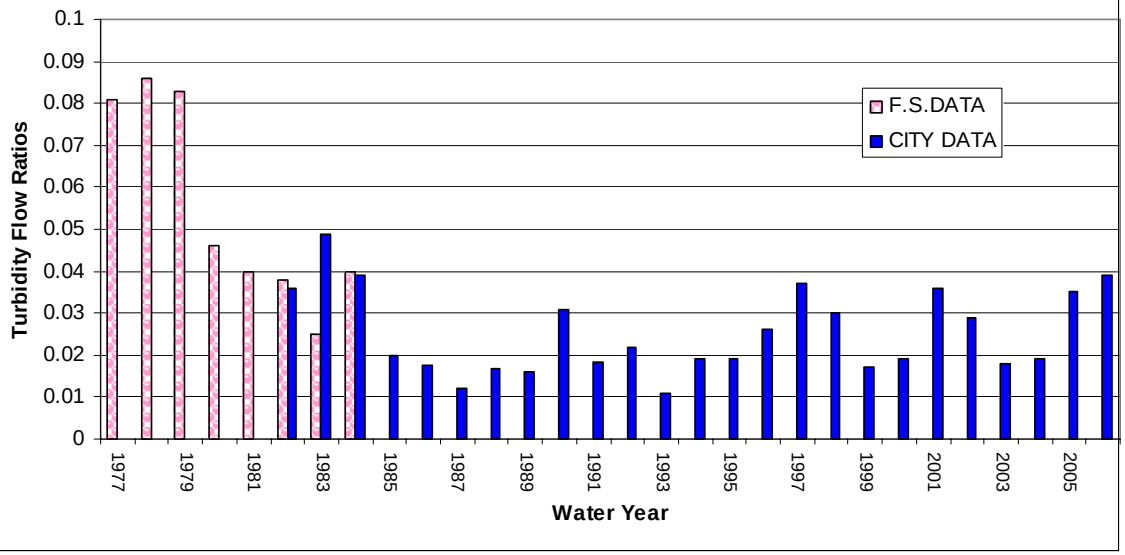


Figure 3: Layng Creek Annual Turbidity Flow ratios



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