

United States  
Department of  
Agriculture

**Monitoring and  
Evaluation Report:  
1998, 1999, 2000**

Forest Service

Pacific  
Northwest  
Region

**Colville National Forest  
Land and Resource  
Management Plan**

2002



## TABLE OF CONTENTS

Chapter

	<u>Page</u>
I. Introduction .....	3
II. Budget and Work/Outputs Table .....	3
III. Monitoring Results and Evaluation .....	4
IV. Appendix A: Monitoring Item Descriptions .....	12
1. Rural Community Assistance; recreation tours between US/Canada and the development of the Selkirk Loop.	
2. LeClerc Allotment; creative roadwork and mitigation, self-monitoring of use by permittee recognized nationally	
3. Coyote Burn Fuels Reduction	
4. Burning in cooperation with Rocky Mountain Elk Foundation	
5. Sullivan Creek Basin camp moving to meet INFISH	
6. Sullivan Creek Basin Leave No Trace camping education	
7. East Branch LeClerc road obliteration	
8. Wildlife Habitat Improvement through tree planting	
9. Addy Timber Sale: Meeting Visual Quality Objectives	
10. Nancy Creek Rd. Slide	
11. Leslie Timber Sale: Soil Disturbance	
12. Leslie Timber Sale: Post Sale Revegetation	
13. Star Route 20 East: Revegetation	
14. Emergency Relief Fund Operation (ERFO) Projects	
15. Tower Road Improvement	
16. Nancy Creek Timber Sale: Worker Safety	
17. United Eagle Timber Sale: Meeting Visual Quality Objectives	
18. North Fork Chewelah Creek Recreation Use	
19. Laurier TV Club Special Use Permit	
20. Thomas Mountain Pit	
21. Little Pend Oreille Campgrounds and Off Road Vehicle Use	
22. Milk Creek Stockpile Location	
23. Orient Water System Special Use Permit	

## I. Introduction

The following monitoring report covers fiscal years 1998 through 2000. Forest budget and outputs are discussed in Section II. A sample of projects from around the Forest were selected for monitoring. They are summarized in Section III.

## II. Budget and Work/Outputs

The following table displays Forest budget and work accomplishments for fiscal years 1998 through 2000. Some of the items being reported, such as Grazing allotment NEPA decisions, had no Forest Plan Target. These items have been left blank in the Table.

**Table 1. Budget and work accomplishments on the Colville National Forest during Fiscal Years 1998 through 2000.**

<i>Forest Budget (\$1,000's)</i>	\$28,300	\$16,482	\$22,087	\$20,183
<b>Work/Outputs</b>	<b>Forest Plan Annual Average</b>	<b>Fiscal Year '98</b>	<b>Fiscal Year '99</b>	<b>Fiscal Year '00</b>
Grazing Allotments NEPA Decisions		0	0	2
Watershed Analysis		2	0	1
Level II Aquatic Inventory (Miles)		20	20	20
Stream Enhancement (Miles)		15	13	9
Soil/Water Improvements (Acres)		60	55	53
Roads Decommissioned (Miles)		7	7	19
Wildlife Habitat Enhanced (Acres)		1676	2371	1997
Noxious Weeds Treated (Acres)		1750	1827	3767
Reforestation (Acres)	7,000	1649	1766	911
Precommercial Thinning (Acres)	2,700	743	1884	1591
Fuel Treatments (Acres)		3849	4471	4086
Timber Sold Volume (MMBF)	123.4	36.2	46.6	37.1
Livestock Grazing (AUM)	35,000	27,318	29,329	27,613
Roads Reconstructed	10	54	56.5	113
Trails Maintained (Miles)		126	NR	945
Recreation Visits* (RVD's)		NR	NR	5464
Biological Assessments		63	56	41

Output Codes: AUM – Animal unit months, MMBF – million board feet, RVD – Recreation Visitor Days

NR – Not Reported in the fiscal year.

\* - Reporting of Recreation Visits has been inconsistent over the years. A study of RVD reporting has been initiated on the Forest to develop consistent criteria for reporting this item. The Colville National Forest is participating in this study, and will use the reporting methods recommended.

### **III. Monitoring Results and Evaluation**

The following are synthesized from the items monitored during 1998 through 2000. Complete descriptions of each monitoring item are contained in Appendix A.

#### **A. Collaboration**

**Monitoring Item #1- Rural Community Assistance.** The Colville National Forest has entered into an agreement with two other Forests, the Idaho Panhandle and British Columbia Provincial Forest, as well as several communities to create the International Selkirk Loop (ISL) whose goal is to develop tourist opportunities and support small communities and businesses in the area. The Forest expected to learn how to collaborate with States, Tribes, and communities in creating this scenic drive loop. The ISL has hired a director and developed brochures, a calendar, and a website to promote tourist activities in the area. Collaboration has resulted in a much more effective product than each individual unit working alone.

**Monitoring Item #2 – Le Clerc Grazing Allotment.** The Forest has collaborated with a grazing allotment permittee and the US Fish and Wildlife Service to monitor grazing and reduce resource impacts within bull trout habitat. The bull trout is a listed species with a defined recovery strategy. The permittee has made suggestions to improve the monitoring protocol. This has resulted in both a measurable improvements in riparian condition within this allotment, and an improved monitoring protocol. A video featuring the permittees has been produced to be used as a training guide for allotment monitoring on both the Colville and Idaho Panhandle National Forests.

**Monitoring Item #4- Cooperative Wildlife Habitat Burning.** The Forest collaborated with the Rocky Mountain Elk Foundation (RMEF) and others to improve wildlife habitat through prescribed burning and closing of roads. They also collaborated on combating the spread of

noxious weeds through the introduction of biological agents. The result of these efforts was improved forage on 1700 acres of winter range and continued good relations with RMEF and other wildlife conservation groups, and an improved understanding of the concerns associated with noxious weed spread on the National Forest. Collaboration has resulted in both more area being treated and increased understanding of wildlife habitat management by the participants.

**Monitoring Item #8- Tree Planting for Wildlife Improvement.** The Sullivan Lake District Wildlife Biologist worked with members of the Rocky Mountain Elk Foundation, Kettle Range Conservation Group, The Lands Council, and the Predator Conservation Alliance to plant trees in earthen berms on closed road entrances. Each field season from 1998 through 2001, the biologist met with four to eight volunteers from these groups to complete the physical planting of trees. On some roads the crews also pulled in slash and spread a mix of forage seed. Work occurred mostly in the Selkirk Mountain Grizzly Bear Recovery Area but also in Canada lynx habitat elsewhere on the ranger district. One goal of this project was to demonstrate the Forest Service commitment to managing for threatened and endangered species, as well as to provide an opportunity for face to face dialogue on related issues with an agency biologist. The project was effective in building trust between the Forest service and outside groups with differing points of view. It also gave these groups first hand knowledge that habitat restoration is being implemented on the Forest.

**Monitoring Item #19 & #22 – Special Use Permits.** Two special use permits (SUP's) were collaboratively monitored. The first was the Laurier TV Club Translator site. This site has a history of safety concerns relating to exposed and bare electrical wires, as well as wildfire ignition concerns. The Forest met with Washington State Electrical inspectors, representatives from Burlington Northern Railroad, and TV Club permittees to correct the problems. The Forest learned that roles need to be clearly understood in regards to the fact that an SUP is a "permit" and not a landlord/tenant relationship. This role needs to be clear enough in SUP wording that for other entities, such as power companies, know that this IS a different situation and will work with us to correct the problem. The Forest also met with the Orient Water Board to monitor their permit for a water system weir. The weir is in need of repair, and concerns are that it might fail, causing resource and property damage downstream. The Forest learned that it is easy to be drawn into the political aspects of permit administration, and we must focus on the terms and conditions of the permit and resist being drawn into the political aspects of the situation.

## B. Burning for Fuels Reduction

**Monitoring Item #3.** The Coyote prescribed burning project compared effects of spring and fall burning on standing conifers, noxious weeds, and wildlife rejuvenation in mixed conifer stands. Monitoring showed that burning can be successful in mixed conifer stands with both spring and fall applications, i.e. there is not excessive mortality in standing conifers. It is critical that burn plans are carefully followed in these vegetation types. Reduction of surface fuels was successful in both spring and fall applications, however, monitoring needs to continue to make a quantitative determination of effects. sprouting and seedling germination was more pronounced with spring burning. Rejuvenation of grasses, herbs, and sedges was most noticeable with fall burns.

## C. Restoration

### 1. Stream Restoration

**Monitoring Item #5 –INFISH.** Sullivan Creek has had several dispersed campsites located along the stream that were in violation of INFISH direction. The objectives of the project were to reduce human impacts to streamside habitat and improve sanitary conditions for the recreating public. The project consisted of relocating concentrated use areas for overnight camping away from the immediate banks of Sullivan Creek; and limiting vehicle access in concentrated use areas adjacent to Sullivan Creek. Visitor contacts were made the first summer following barrier rock placement and relocation of the toilets. Some visitors expressed the view that the FS was locking them out of their forest. The majority of users, however, changed their view when the reason for the rock placement was explained to them and when they realized that most of the dispersed sites were still open to overnight camping with the only limit being where they could drive and park their vehicle. Most of the breaches of the rock barriers took place in the fall, when there were no longer FS recreation personnel available to make the visitor contact. More forest visitors are using the toilets now than were using the toilets at the old locations. The new toilets are visible from the road and have additional signage directing visitors to them.

### 2. Revegetation

**Monitoring Item #12 - Leslie Timber Sale.** Monitoring of soil disturbance and Forest Plan/Forest Re-vegetation Guidelines in relationship to skid trails on steep slopes. The skid trails in question, were on a short steep pitch (>30%) within a unit, which was tractor logged and

had been water barred and seeded the previous season. Seeding efforts on skid trails indicate that the ground is very quick to re-vegetate and heal up, provided the top soil is not totally removed (such as in road cuts). The areas of the skid trails that were only ripped were in better shape than where water bars had been installed and "C" horizon materials exposed. The water bars had been effective at stopping soil movement even on the slopes over 30%, but the ripping and existing dead vegetative materials laying on the surface of the skid trails are important in keeping the soil erosion from starting at all.

**Monitoring Item #13-State Route 20 East, WSDOT.** Re-vegetation Monitoring. The State Route 20 project increased curve widening on several corners and changed the roadbed to an all weather sub grade. This project required clearing of several miles of right-of-way on the Three Rivers and Sullivan Lake Ranger Districts. The work was done under an agreement with the WSDOT. Issues monitored included: re-vegetation of cut and fill slopes, cut and fill slope stability, sedimentation reaching the streams and lakes in the area and noxious weeds. Cooperation and communication with the WSDOT were integral to solving resource issues on the ground. This was an important project that provided a great deal of public value and safety through highway improvements. Working with WSDOT resulted in reduced amounts of sedimentation reaching the lakes, streams and wetlands through coordination in revegetation and silt fence placement. These actions also reduced noxious weed invasions into the disturbed areas.

### 3. Road Restoration

**Monitoring Item #7 - East Branch LeClerc Road Obliteration** - The project constructed 0.3 miles of new road and reconstructed 2.2 miles of Forest Road. The objectives of the project were to rehabilitate the road and return it back to a riparian ecosystem. The road has been a major contributor of sediment to the creek, this project is supposed to reduce sedimentation from road wash. The area will be revegetated with riparian species. The project has been successful so far. The road has been returned back to slope, as seen below. Grass is coming up, especially where hay was spread. New construction is unsightly due to bare, raw appearance of the site.



The second section of road will be rehabilitated this fall. It is recommended that more debris be used across the slope. There are ample sources on the new construction. There needs to be more involvement from parties concerned with construction.

**Monitoring Item #10 - Nancy Creek Road Slide:** This area has been a long-term maintenance problem exacerbated by a major slumping and erosion event in 1996. Substantial work has been completed on this road by two different projects since then. In addition, reconstruction occurred as part of the Nancy Timber Sale to help mitigate some of the problems. The primary issues are sedimentation reaching Nancy Creek, spread of noxious weeds and road maintenance.

What was learned through monitoring:

- 1) Removal of vegetation in historically wet, seepy hillsides will result in a higher volume of runoff and erosion potential, especially in clay/silt soils.
- 2) Prevention of cattle grazing in newly re-vegetated areas allows grasses, forbs, etc. to become well established.

**D. Resource Protection**

1. Visual Quality Monitoring

**Monitoring Items #9 & #17.** The Addy and United Eagle timber sales were monitored for visual quality. Addy was monitored for visuals from Highway 395 in relationship to helicopter and tractor logging and the reintroduction of under-burning in Ponderosa pine stands both in timber

sale units and outside of units on Iron Mountain. Monitoring revealed that harvested units could not be identified from highway 395 even though post sale burning was also implemented that reduced ladder fuels in the units. The monitoring team felt that additional volume could have been removed from the sale while still meeting visual quality objectives.

The units monitored on United Eagle were also a helicopter yarded. This sale was contentious with the local public due to concerns about maintaining the visual quality of the area. Monitoring showed that units could not be identified after the first year following harvest. Additional volume could have been removed from the sale. A better understanding of helicopter yarding economics and applications was developed.

**2. Monitoring Item #11 – Leslie Timber Sale.** Soil compaction and soil displacement by conventional logging yarding vs. cut-to-length yarding. Teams were formed under the direction of the district hydrologist and soil scientist. They surveyed soil compaction and soil displacement on randomly established grid lines, in several units. The data was compiled and compared to the Forest Plan guidelines. What was learned through monitoring:

- 1) It is very difficult to accurately determine what impacts logging yarding have on the soil resource, but it appears that we are not exceeding Forest Plan guidelines.
- 2) Cut-to-length yarding systems work better in regards to protecting soil resources in stands where the trees are more dense and the crown ratios are higher, which produces deeper and more consistent slash mats for the equipment to run on.
- 3) It was difficult to determine statistically if there was more disturbance and compaction with one system vs. the other on a unit-by-unit basis, but the observations and discussions by the sale administrators indicated that unit soil conditions, and the consistency of the slash mat layer do play a part in the equation.
- 4) The favoring of winter logging opportunities and limiting cut-to-length operations to stands where the slash mat will be deep enough to hold the machines above the soils are the best way to minimize soil compaction or displacement issues.

## E. Recreation

**Monitoring Item #6 - Leave-No-Trace Camping Education** - This project was conducted as a study, with assistance from Western Washington University and the Pacific Southwest Research Station. This project was developed in an attempt to determine the affect of different methods of delivering the Leave No Trace message on campers' behavior – specifically dealing with human waste. Dispersed campsites along

Sullivan Creek were “sanitized”, by burying all human waste found, immediately prior to Memorial Day weekend. After the weekend the sites were checked and the amount of human waste was surveyed. The sites were sanitized again immediately prior to Fourth of July weekend and Leave No Trace informational posters were posted. Again the sites were surveyed for human waste following the weekend. The sites were sanitized again immediately prior to Labor Day weekend and personal contacts were made by FS recreation personnel during the weekend. A follow-up survey for human waste was again completed.

The highest success in getting forest visitors to properly dispose of human waste was achieved when personal contacts were made. There was a slight improvement when Leave No Trace posters were placed in the campsites.

#### 1. Off- Road Vehicle (ORV) Use

**Monitoring Items #18 & #21.** ORV use was monitored in two locations on the Forest, the North Fork of Chewelah Creek, and the Little Pend Oreille Lakes area. The issues related to this problem include:

- a) A dramatic increase in off-road vehicle use in the general forest areas.
- b) Unlicensed vehicle use on forest roads and county roads.
- c) Lack of trailhead parking locations.
- d) Lack of suitable and designated off-road trails on the Forest.
- e) Alcohol use by off-road vehicle operators.
- f) Excessive speed and noise in the campgrounds by off-road vehicle operators.
- g) A trailhead in the campground designed and compatible 20 years ago when there were far fewer riders accessing the trails from any place other than the campground.
- h) A trail system designed for 2 wheeled off-road vehicles when there are almost as many, or more, 4 wheeled off-road vehicles in use.

Monitoring is indicating that an off-road vehicle policy needs to be developed for the Forest. There are major conflicts with ORV's and some other Forest uses. There are concerns for the safety of both riders and other Forest users. Some of the trails are very dangerous due to limited site distance, debris across trails, and poor trail design. Resource damage from ORV use is increasing, especially in meadows and riparian zones. There is an ever-increasing use of these vehicles on Forest and county roads by drivers too young to have a license.

#### F. Health and Safety

**Monitoring Item #16.** Concerns about worker safety prompted the monitoring of the Nancy Creek Timber Sale. Issues were snag removal,

impacts of marking guides, and marking by crews with little understanding of tree felling with small trees and tightly intertwined crowns. Monitoring revealed that the Forest Service has an obligation to provide safe working conditions for sawyers and woods workers in logging units. The characteristics of acceptable snags were discussed with marking crews. Marking crews need to better understand tree felling limitations, such as reducing situations that result in hang-ups.

## **APPENDIX A. MONITORING DOCUMENTATION**

### **Monitoring Item #1. Rural Community Assistance; recreation tours between US/Canada and the development of the Selkirk Loop**

(Sheila Walker and Fred Gonzalez)

The International Selkirk Loop (ISL) was created across County, State, and international boundaries to develop a tourism enterprise zone that would support small businesses and chambers of commerce. By operating on a much larger scale, the ISL is able to support each other and sustain their businesses as well as communities. In doing so, the ISL been able to enhance Forest Service information and education efforts in natural resource management and recreational opportunities.

What connects these communities is a drivable loop made up of State/Canadian highways. It is a unique scenic roadway that wanders through two countries, two states, three Indian Reservations, and a number of towns and villages. The loop connects the Pend Oreille Valley with the Kootenay Valley, forming one of North America's more remote and scenic highways. There are three national forests, two in the US and one in Canada, which are teeming with opportunities for wildlife and outdoor recreation enthusiasts. There are 55 lakes in this region including Lake Pend Oreille, the third largest fresh water lake west of the Mississippi. There are 35 communities on the Loop. The history of this area is steeped in mining, small farm agriculture, and timber. The ISL motto is "to remove the remoteness of our area while protecting and preserving the *ruralness* we enjoy."

What We Expected to Learn (Accomplish):

The ISL expected to learn how to successfully collaborate with States, Tribes, and Nations in creating a scenic drive loop. This effort was driven by the rural businesses in northeast Washington, north Idaho, and southeast British Columbia. The ISL expected to improve recreational customer service, define and market recreational opportunities, and increase local jobs while conserving natural resources.

What we Actually Learned (Accomplished):

The largest challenge of this project is communication among all the members. Thanks to the tireless efforts of the Executive Director and the members of the ISL, there are now more than 300 business and non-profit members. There are three time zones, two states, three reservations, one province, and two countries to coordinate for each monthly

meeting--each of which includes a border crossing for some of the members. Despite all these challenges, there is a good cross-section attendance at each meeting. A web site has recently been developed to aid in this communication and to be used as an advertising tool ([www.selkirkloop.org](http://www.selkirkloop.org)).

The ISL has grown and developed by improving organizational structure, leadership, membership, and partnerships among the Loop constituency. It has targeted its marketing efforts effectively to save money while reaching the right people. The Loop has developed high-quality promotional materials that create a desire to visit the area, and provide the visitor with needed information. The ISL has established public relations campaigns to generate publicity, attract tours, and raise awareness among Loop communities. It has done all this while preserving the cultural identity and integrity of the area.

Aided by grants from the USDA-Forest Service; Washington Department of Community, Trade and Economic Development (WA-CTED); Nelson, BC Chamber of Commerce; Creston, BC Chamber of Commerce; and some of the small communities involved, the Loop was able to hire a part-time marketing director in 1999 and has produced a lure brochure and a travel guide. A web site and an 800 number are in service. A rack card has been produced and is being distributed. A joint calendar of events for all communities on the Loop (The Passport) is printed annually and listed on the web site. The Loop has obtained 501-c-6 status.

Now that the ISL organization is maturing, it is going through a learning curve of how non-profit organizations operate. In the beginning, the ISL was governed mainly by consensus of all members and it took much time to create and implement strategies. Further down the road, the ISL decided that hiring a part-time Marketing Director, to focus on project implementation and membership, was needed; the Marketing Director was hired and was the lead proponent in the accomplishments listed in the previous paragraphs. While the Board continued to meet, they left most of the strategic planning in the hands of the Marketing Director. Because of the awesome workload this created on the Marketing Director, little strategic planning was achieved during this period.

In the last year, the Board has gained many new members and has taken a more active role in strategic planning; they also participated in a 1-day training course on Board operations. The new Board is focusing on making the ISL more self-sustaining by soliciting corporate sponsorships, thereby decreasing their reliance on grants. The ISL also learned that having a U.S. citizen promote memberships in Canada could create some problems. Because of this and other issues related to distance, citizenship and culture, the Board decided it needed a part-time administrator and two part-time "Directors of Operations", one for the U.S., and one for Canada, rather than a full time Executive Director and an assistant.

What Do We Need To Change:

The ISL has been very successful to date. With the increased awareness in creating a self-sustaining organization, through corporate sponsorships and other revenue generation ideas, the ISL is on its way to a bright future. Having offices in the U.S. and Canada will also help to alleviate some issues of doing business in both countries.

**Monitoring Item #2. LeClerc Allotment; creative roadwork and mitigation, self-monitoring of use by permittee recognized nationally**

(Teresa Catlin)

Jere and Ann Dennis are permittees on the Le Clerc Creek allotment. This allotment has many challenges—it is within a priority watershed for bull trout and is under a Biological Opinion from the US Fish and Wildlife Service; it contains habitat for grizzly bear, gray wolf, Canada lynx and woodland caribou—also listed as threatened and endangered species; a number of elk from a nuclear power plant reservation have been transplanted into the watershed in the last year; it has private land, both timber company and small private homeowners, within its boundaries; numerous private and National Forest System timber sales have taken place in the allotment during the permit period; it has a Research Natural Area in its upper elevations; and it is a major recreational use area.

Ann and Jere have been good permittees over the years, but the area where the Dennis's have really gone the extra miles to protect and restore Le Clerc Creek has been in the area of riparian vegetation monitoring. In 1999 the interagency monitoring module for bull trout was released. Le Clerc creek has verified sightings of bull trout in two of its branches, and is thus Category 1 habitat for bull trout. The Dennis's have participated with the USFS and US Fish and Wildlife Service staff to implement the Terms and Conditions of the Biological Opinion issued by USFWS in 1999, using the monitoring methods in the module. In addition to the monitoring module, photo points were established and extra transects were located and monitored.

Jere worked with the USFS range technician, Kurt Aluzas, nearly every day the summer of 1999 to locate key areas to monitor the "green line". It was Jere's suggestion to locate more than one monitoring point in every pasture so that he could get a more accurate picture of the grazing pressure on the pasture as a whole. Even though it is not required for the permittee to measure the stubble height on the transects, Jere is out there walking in, sometimes more than a mile, to measure grass several times a week and, more importantly, to move cattle based on that rather than the calendar. The Dennis's have served as spokespersons for the usefulness of this method of range monitoring to their peers and in the community.

The Dennis's efforts to successfully implement the new interagency monitoring module has resulted in a rigorous test of the methodology. Jere and Ann's sincere and committed work to meet the spirit and intent, as well as the details, of the recovery efforts for bull trout have resulted in measurable improvements in riparian condition in this allotment. They have suggested improvements in the techniques that have made the monitoring

work better and more efficiently. They feel that using the stubble height monitoring in the green line, as they have implemented it, has been a valuable tool for them to best manage both the vegetation and their cattle's use of forage. In 2000 we made a video tape of the Dennis's demonstrating the monitoring to use as a training guide for the rest of the permittees in the Pend Oreille Valley and the North Zone of the Idaho Panhandle National Forest.

#### What Needs To Change

Do some interdisciplinary work to see if we can come up with a better way to estimate bank trampling other than stubble height; in these moist allotments, because regrowth is so quick and so prolific, it might not be a very good surrogate for bank trampling. It's adequate for a lot of other things we want to keep track of, but I think we need to do some more work on other measures.

### **Monitoring Item #3. Coyote Prescribed Burning**

(Tom Weinmann)

**Project Description-** Reduction of natural fuels and rejuvenation of desirable browse species. Project site lies in the Sherman Creek watershed north of Highway 20 on south facing slopes and benchlands between Coyote Creek on the west and Trout Creek on the east. Project area covered approximately 1700 acres.

**Objectives-** (1) Reintroduction of fire in a low-severity regime (Condition Class 1 & 2). (2) Enhance herbaceous forage. (3) Limited mortality of mixed conifers over 7" DBH. Objectives where to compare spring versus fall application of prescribed fire, fire effects on standing conifers, noxious weeds, and wildlife browse.

**What We Learned-** We can successfully apply prescribed fire in a mixed conifer stand and meet silvicultural objectives of limited mortality. However the application of fire in this area would not have been successful if flame lengths, lighting patterns, and environmental parameters were not strictly adhered to. Reduction of standing fuel (ladder fuels 0-5" DBH) and surface fuels was successful in both spring and fall application. Vegetation response was especially noticeable in the spring (epicormic sprouting/refractory seeds). Fire effects on the vegetation from fall application was most noticeable in grasses, herbs, sedges. These areas the following spring appear to be doing well. Additional monitoring of the spring versus fall application needs to continue. Long term effects of conifer mortality and onset of insect and disease are not known at this time. Monitoring of noxious weeds also needs to continue as it appears some varieties of these plants were enhanced by the fire.

**Monitoring Item #4. Burning in cooperation with Rocky Mountain Elk  
Foundation**  
(Jim McGowan)

During fiscal years 1998 - 2000, the Colville National Forest was very pleased to continue its long-standing relationship with the Rocky Mountain Elk Foundation (RMEF). During this three-year period, 9 different habitat improvement projects were conducted cooperatively between RMEF and the Forest, bringing the total number of joint projects conducted on the Colville National Forest to 35.

As in past years, the primary focus of these projects was prescribed burning. Approximately 1700 acres of prescribed burning was conducted to improve existing forage within winter range and other areas important for elk, mule and white-tailed deer, moose and other wildlife. The burning was done by a combination of helicopter ignition and hand crews. In conjunction with this prescribed burning, 75 acres of seeding to improve forage condition and availability and 40 acres of hardwood management to improve forage and spring calving habitat were conducted. To provide increased habitat security within winter range and other important habitats, several cooperative road management activities were also conducted. The Rocky Mountain Elk Foundation contributed both funding and volunteer labor to assist with closure of 58 miles of roads with earthen berms, and/or gates and installation of 8 interpretive signs to explain project activities.

Other partners involved with wildlife burning projects included The Mule Deer Foundation and the Inland Northwest Wildlife Council.

The Rocky Mountain Elk Foundation also contributed to the initiation of the Tri-County Biological Control Program For Noxious Weeds. Other partners involved in this highly successful project include Washington State University Extension Service, Bureau of Land Management, Washington Department of Natural Resources, Boise Cascade Lumber, Colville Confederated Tribes, Spokane Tribe, Kalispel Tribe of Indians, U.S. Fish and Wildlife Service, National Park Service, Stevens, Ferry, & Pend Oreille County Weed Boards, & many others. The objectives of this on-going multiple partner project are to:

- 1) Develop and maintain region-wide support for noxious weed management;
- 2) acquire, cultivate and distribute biological control agents targeted toward specific noxious weed species;
- 3) monitor and evaluate biological control releases;
- 4) collect and redistribute effective control agents to other areas.

Monitoring efforts have shown that these burns stimulate and improve existing stands of shrubs (redstem ceanothus, serviceberry, chokecherry, oregon grape, willow, rose, ninebark, oceanspray, mock orange, snowberry, Douglas maple, willow, and other shrubs) as well as open dense conifer stands to allow growth of grasses forbs, and shrubs, thereby creating new forage. With regard to road closures, monitoring has indicated that closure of un-necessary roads can improve seclusion, provide escape habitat for big

game, and greatly reduce human disturbance during winter and calving seasons. Many hunters are also discovering that the walk-in hunting provided behind these road closures is a higher quality hunting experience.

**Monitoring Item #5. Sullivan Creek Basin**  
**Changes to Campsites to Meet INFISH Guidelines**  
(Kim DiRienz)

**Brief description of the project.** This project consisted of two parts:

- a. to relocate concentrated use areas for overnight camping with structures associated with them away from the immediate banks of Sullivan Creek; and
- b. to limit vehicle access in concentrated use areas to areas a minimum of 25 feet away from Sullivan Creek;

The first part of the project was accomplished by installing three CXT barrier-free toilet buildings along the Sullivan Creek Road (Forest Road 2200) at suitable locations away outside of the Riparian Habitat Conservation Area (RHCA) of Sullivan Creek. The toilets were placed to provide sanitary facilities to the greatest number of dispersed campsites. The three old, wooden toilets that these new toilets replaced were then removed. Other structural improvements such as picnic table bases and firepits were also removed. The old campsites associated with the original toilet locations were then ripped and seeded. Rocks were placed over the rehabilitated areas in an effort to physically deter return use thereby allowing the seeded vegetation to become established. Short spur roads with a landing at the end were constructed near the new toilets to replace the old campsites.

The second part of the project was accomplished by installing large barrier rocks at strategic locations in dispersed camping areas along Sullivan Creek. The rocks were placed so that vehicle parking was still provided, however, vehicles could no longer drive right up to the streambank. Follow-up contacts were made to provide information to forest visitors about the purpose of the project.

**What we expected to learn (objectives).** The objectives of the project were to reduce human impacts to streamside habitat and improve sanitary conditions for the recreating public.

**What we actually learned.** Some behavioral traits that we knew existed were reinforced by the project. The main trait was the resistance of humans to change. As part of the project we made visitor contacts the first summer immediately following barrier rock placement and relocation of the toilets. Some visitors initially expressed the view that the FS was locking them out of their forest. The majority of users, however, changed their view when the reason for the rock placement was explained to them and when they

realized that most of the dispersed sites were still open to overnight camping with the only limit being where they could drive and park their vehicle.

A small percentage of forest users see placement of barrier rocks as a challenge to their “right” to do whatever they please, wherever they please. These folks found new ways around the rocks or moved smaller rocks out of the way. It was noted that most of the breaches of the rock barriers took place in the fall, when there were no longer FS recreation personnel available to make the visitor contact.

The new campsites that were created near the toilets have not received much use initially. Again, it may be as a form of passive protest against the FS interfering with the ability of forest users to select their own campsite. It is expected, however, that over time other users will “find” the campsites and they will develop their own loyal users.

More forest visitors are using the toilets now than were using the toilets at the old locations. The locations of the old toilets were such that they were either not immediately evident to day-users traveling along Sullivan Creek Road or were within a campsite which would require individuals to “trespass” through someone’s camp in order to get to the toilet. The new toilets are visible from the road and have additional signage directing visitors to them.

What do we need to change? We need to ensure that when a change is being made, in addition to upfront information to the public, we supply follow-up contacts. These follow-up contacts ensure that folks who are experiencing the change firsthand have an opportunity to express any concerns and gain understanding of why the change was made.

**Monitoring Item #6. Sullivan Creek Basin**  
**Leave No Trace Camping Education**  
(Kim DiRienz)

**Brief description of the project.** This project was conducted as a study, with assistance from Western Washington University and the Pacific Southwest Research Station.

Dispersed campsites along Sullivan Creek were “sanitized”, by burying all human waste found, immediately prior to Memorial Day weekend. After the weekend the sites were checked and the amount of human waste was surveyed. The sites were sanitized again immediately prior to Fourth of July weekend and Leave No Trace informational posters were posted. Again the sites were surveyed for human waste following the weekend. The sites were sanitized again immediately prior to Labor Day weekend and personal contacts were made by FS recreation personnel during the weekend. A follow-up survey for human waste was again completed.

**What we expected to learn (objectives).** This project was developed in an attempt to determine the affect of different methods of delivering the Leave No Trace message on campers’ behavior – specifically dealing with human waste.

**What we actually learned.** The highest success in getting forest visitors to properly dispose of human waste was achieved when personal contacts were made. There was a slight improvement when Leave No Trace posters were placed in the campsites.

**What do we need to change?** It is unfortunate that the highest success is achieved using the method we are least able to employ. The change that is needed is to have additional recreation personnel to serve as patrols to spread the Leave No Trace message and provide answers to forest visitors' questions. Current and foreseeable future funding for recreation does not appear to support implementing this change.

**Monitoring Item #7. Success of East Branch LeClerc Road Obliteration**  
(Karen Honeycutt)

1) Brief description of the project.

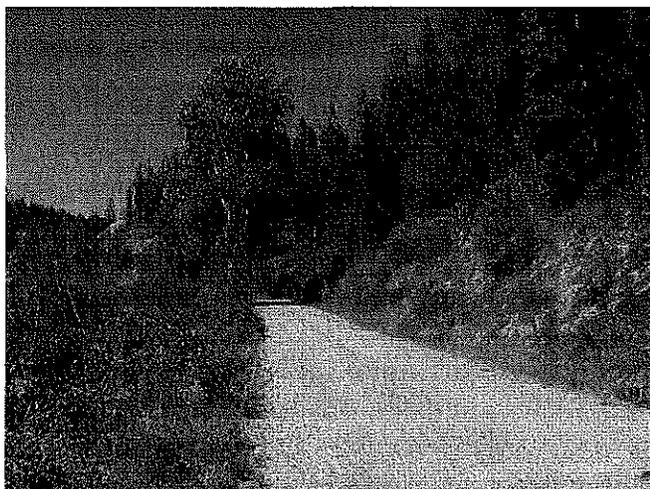
The project includes constructed 0.3 miles of new road and reconstructed 2.2 miles of U.S. Forest Service Road 1934060. An easement was granted to the County by Stimson Lumber Company for the northern 0.4 miles of the new road.

The old road (County Road 3521) was vacated by Pend Oreille County and management and maintenance responsibility was turned back over to the U.S. Forest Service. Approximately 1.0 mile of this road was closed, stabilized and rehabilitated. An additional 1.0 mile of this road and 0.7 miles of the northern portion of Forest Road 1934065 is still to be closed, stabilized, and rehabilitated.

Access to the private property located in the SW1/4 of the NW1/4, Section 4, T. 35 N., R. 44 E., W.M. would be provided along reconstructed Forest Road 1934060, then along the existing County Road 3521, to Forest Road 1934200. From a point on Forest Road 1934200, a new road approximately 0.8 miles in length will be constructed in FY 2002 in the SW1/4 of Section 33, T. 36 N., R. 44 E., W.M. An easement from Stimson Lumber Company for a 0.3 mile section of road has been obtained.

- **Objectives** The objectives of the project were to rehabilitate the road and return it back to a riparian ecosystem. The road has been a major contributor of sediment to the creek, this project is supposed to reduce sedimentation from road wash. The area will be revegetated with riparian species. The new construction was to provide access around this area.

**Results.** The project has been successful so far. The road has been returned back to slope, as seen below. Grass is coming up, especially where hay was spread. When people see the fresh construction, they tend to complain because they see dirt.



➤ What do we need to change?

The second section of road will be rehabilitated this fall. It is recommended that more debris be used across the slope. There are ample sources on the new construction. There needs to be more involvement from parties concerned with construction.

**Monitoring Item #8. Wildlife Habitat Improvement**  
**Increasing Closed Road Effectiveness Through**  
**Tree Planting**  
(Mike Borysewicz)

Description of Project:

The District Wildlife Biologist worked with members of the Rocky Mountain Elk Foundation, Kettle Range Conservation Group, The Lands Council, and the Predator Conservation Alliance to plant trees in earthen berms on closed road entrances. Each field season from 1998 through 2001, the biologist met with four to eight volunteers from these groups to complete the physical planting of trees. On some roads the crews also pulled in slash and spread a mix of forage seed. Work occurred mostly in the Selkirk Mountain Grizzly Bear Recovery Area but also in Canada lynx habitat elsewhere on the ranger district.

Expectations:

This project is intended to provide a visual screen/vegetative barrier on the entrances of closed roads, thereby increasing the effectiveness of the closures and improving habitat security for grizzly bears and other wildlife. Another objective was to demonstrate the Forest Service's commitment to managing for threatened and endangered species, as well

as to provide an opportunity for face to face dialogue on related issues with an agency biologist.

**What Was Learned:**

It is always a worthwhile experience to work side by side with individuals who have serious disagreements with certain Forest policies and management objectives. It is at the very least a trust building exercise. It can also put a human face on differing points of view and promote better understanding between the agency and outside groups.

**What Needs to be Changed:**

No changes are needed at this time. The Forest could continue implementing this method of opening communication with environmental groups as appropriate projects become available.

**Monitoring Item #9. Addy Timber Sale: Meeting Visual Quality Objectives**

Visuals from Highway 395 in relationship to helicopter and tractor logging and the reintroduction of under-burning in Ponderosa pine stands both in timber sale units and outside of units on Iron Mountain. Issues discussed included:

- 1) No new road cuts on the hillsides in relationship to helicopter yarding.
- 2) The fact that many of the harvested areas could not be identified, even by FS employees, due to the post harvest stand characteristics.
- 3) The killing of ladder fuels in the units.
- 4) Damage to old growth trees. Scorch heights and expected mortality rates.
- 5) Smoke issues in relationship to the town of Addy and Highway 395.

The whole FLT and several representatives from the Three River Ranger District participated in the monitoring trip.

What was learned through monitoring: Information gained from the trip included the fact that neither the logging, nor the fire activities had impacted the visuals from Highway 395 in any way. It was felt that the silvicultural approach taken in the timber sale had been too conservative in terms of the “anticipated” visuals impact. The concerns about smoke management were discussed and the need for several known and utilized mitigation measures was strongly reinforced.

**Monitoring Item #10. Nancy Creek Road Slide**

This area was a long-term maintenance problem that had a major slumping and erosion event in 1996. Major work has been completed on this road by two different projects

since then, one under contract and one force account. In addition, reconstruction occurred as part of the Nancy Timber Sale to help mitigate some of the problems. RO and SO engineering employees, specialists, the District Ranger and numerous District employees conducted numerous formal and informal monitoring site visits. The primary issues are sedimentation reaching Nancy Creek, spread of noxious weeds and road maintenance.

What was learned through monitoring:

- 3) Consider RO engineers' input with an overriding emphasis placed on local expertise and historical conditions.
- 4) Removal of vegetation in historically wet, seepy hillsides will result in a higher volume of runoff and erosion potential, especially in clay/silt soils.
- 5) Prevent cattle grazing in newly re-vegetated areas, to allow grasses, forbs, etc. to become well established.
- 6) Make certain that District personnel are involved in all major engineering contract modifications, before the modifications are made and agreed to.
- 7) Determine the ramifications of locating roads in creek bottoms.

**Monitoring Item #11. Leslie Timber Sale: Soil Disturbance**

Soil compaction and soil displacement by conventional logging yarding vs. cut-to-length yarding. The District conducted the session and invited employees in presale, sale administration and planning, from across the Forest. Several representatives from every district attended. Teams were formed under the direction of the district hydrologist and soil scientist. They surveyed soil compaction and soil displacement on randomly established grid lines, in several units. The data was compiled and compared to the Forest Plan guidelines. The implications were discussed in relationship to the two logging systems based upon this information.

What was learned through monitoring:

- 5) It is very difficult to accurately determine what impacts logging yarding have on the soil resource, but it appears that we are not exceeding Forest Plan guidelines.
- 6) Cut-to-length yarding systems work better in regards to protecting soil resources in stands where the trees are more dense and the crown ratios are higher, which produces deeper and more consistent slash mats for the equipment to run on.
- 7) It was difficult to determine statistically if there was more disturbance and compaction with one system vs. the other on a unit-by-unit basis, but the observations and discussions by the sale administrators indicated that unit soil conditions, and the consistency of the slash mat layer do play a part in the equation.

- 8) The favoring of winter logging opportunities and limiting cut-to-length operations to stands where the slash mat will be deep enough to hold the machines above the soils are the best way to minimize soil compaction or displacement issues.

**Monitoring Item #12. Leslie Timber Sale: Post Sale Revegetation**

FLT monitoring of soil disturbance and Forest Plan/Forest Re-vegetation Guidelines in relationship to skid trails on steep slopes. I believe the whole FLT, some SO specialists and some District employees participated in this monitoring of skid trail rehabilitation compliance effectiveness, as required in the Timber Sale contract. The skid trails in question, were on a short steep pitch (>30%) within a unit, which was tractor logged and had been water barred and seeded the previous season.

**What was learned through monitoring:**

- 1) It was felt that for the most part the requirements of the Timber Sale contract were meeting the objectives of the Forest Plan and Forest Re-vegetation Guidelines.
- 2) Reduced impacts on the land from logging equipment, resulted in increased likelihood of native shrubs and forbs re-sprouting and contributing to re-vegetation efforts on the hillsides.
- 3) The seeding efforts on skid trails along with the good growing conditions found on several areas of the Colville National Forest, (including Leslie TS) show that the ground is very quick to re-vegetate and heal up, provided the top soil is not totally removed (such as in road cuts). The areas of the skid trails that were only ripped were in better shape than where water bars had been installed and "C" horizon materials exposed.
- 4) The water bars had been effective at stopping soil movement even on the slopes over 30%, but the ripping and existing dead vegetative materials laying on the surface of the skid trails are important in keeping the soil erosion from starting at all. The amount of dead vegetative materials still on these skid trails was related to the fact that only a small amount of volume had been moved over these trails.
- 5) Small areas in a unit that exceed the 30% slope recommendation and do not have the same kind of optimum re-vegetative conditions may need to be excluded from timber harvest and/or find additional mitigation measures that will eliminate the soil displacement concerns. These might include hand pulling of slash on to the trails after they are ripped, water barred and seeded, or, requiring winter time logging with snow and frozen soil conditions, so the soil resource is not impacted.

**Monitoring Item #13. State Route 20 East: Revegetation**

Re-vegetation Monitoring. This was done with primarily an SO review team, but there were some district employees involved. The State Route 20 project was done to increase curve widening on several corners as well as to change the roadbed to an all weather sub grade. This project required clearing of several miles of R/W on the Three Rivers and Sullivan Lake Ranger Districts. The work was done under an agreement with the WSDOT and most of the project monitoring was done as part of the SUP permit administration in conjunction with the Thomas Mtn Pit SUP. However, this Re-vegetation Monitoring was done by a separate IDT, specifically to review the site specific needs of the project and to recommend needed work items to meet the intent of the Forest Plan and Forest Re-vegetation Plan. Issues monitored included: re-vegetation of cut and fill slopes, cut and fill slope stability, sedimentation reaching the streams and lakes in the area and noxious weeds. A report recommending a formal program of revegetation needs was developed by this team based on the State's first attempt at meeting the revegetation requirements. WSDOT and the Forest negotiated the completion of these additional work items, of which DOT agreed to do most of them. (Lou Janke or Kathy Ahlenslager would be better sources of information on this project.)

What was learned through monitoring: Cooperation and communication with the WSDOT were integral to solving resource issues on the ground. This was an important project that provided a great deal of public value and safety through highway improvements. By working with WSDOT we minimized the amounts of sedimentation reaching the lakes, streams and wetlands, as well as minimized the noxious weed invasions into the disturbed areas.

#### **Monitoring Item #14. Emergency Relief Funding Operations(?) (ERFO) Projects**

There has been a lot of formal and informal monitoring of the ERFO projects on the Three Rivers Ranger District including the Log Flume bank stabilization, the 2020 Road bank stabilization and road widening, the Barnaby Creek Road stabilization, the South Boulder Creek project and the Fritz Creek bridge replacement. These projects have been monitored for slope stability, safety, sedimentation, noxious weeds, etc, by SO and District personnel on numerous occasions and for various reasons in the course of determining and implementing appropriate actions on the sites.

#### **What was learned through monitoring?**

- 1) On the South Boulder area we have identified and taken actions to reduce public safety issues in relationship to vehicles (4 wheel drives and 4 wheelers) from breaching the closures and driving the road up to and past the wash outs.
- 2) On the 2020 road location actions were taken to improve public safety with better road signs.
- 3) On the Log Flume bank stabilization, and the 2020 road, the suggestion to straighten the Sherman Creek stream channel in both areas was circumvented. The straightening of the channel would have reduced the stream reach distance,

increased the stream slope and increased the stream energy levels. This stream already has problems as a result of decreases in reach distance, increased slope and increased stream energy levels due to the re-channelization done by the State Route 20 Highway.

#### **Monitoring Item #15. Tower Road Improvement**

Curve widening and slope stabilization project. This project was originally worked on several years ago to increase site distances and reduce road maintenance costs from a steep road cut slope in loose sandy/silt material. The work was justified from the standpoint of safety as the segment of road had a high incident of accidents, but it was felt we needed to fix the maintenance problem with the cut slope at the same time. After the project was completed, numerous accidents occurred over a short period of time involving the retaining wall used to stabilize the cut slope. Monitoring of the issue was accomplished through discussions between district employees in sale admin, the Forest Engineer, Assistant Forest Engineer, one of the road engineers and the Roads Maintenance Foreman. The retaining wall design and the road surface width were modified and implemented to allow for greater public safety.

What was learned through monitoring: Trying to find an engineering solution to a road maintenance problem on a steep cut slope created a safety hazard, which was identified through monitoring.

#### **Monitoring Item #16. Nancy Creek Timber Sale: Worker Safety**

Concerns about helicopter yarding safety in both the application of marking guides and snags. This issue was raised in relationship to discussions between Forest Service sale admin and Timber Sale purchaser subcontractors. These issues were monitored and discussed by: district employees, including the Presale Technician and the Silviculturist, purchaser representative, subcontractor crew foreman, Forest Timber Sale Contracting Officer, and State of Washington Labor and Industry Safety Inspector. The issues discussed in the sale included: removal of snags in helicopter logging operations, the impacts of marking guidelines and lack of understanding by the marking crew in terms of tree felling when marking smaller to mid sized trees in stands with tightly intertwined crowns.

What was learned through monitoring:

- 1) The Forest Service has an obligation, through the development of marking guides and their application, to provide safe conditions for sawyers when they are felling helicopter-logging units. If there are not enough trees marked to cut, tight crown conditions will result in problems in getting the trees to the ground. The resulting

hang-up trees become a safety issue for hookers and sale administration employees when the helicopter is in the process of yarding logs.

- 2) Where there is not a road at the top or bottom of a helicopter unit, fallers have to have a place to fall the first tree to make an opening and fall other trees into.
- 3) The Forest Service, contractor and the State inspector discussed characteristics of snags which were acceptable to leave standing in the units and which had to be felled for safety reasons.

### **Monitoring Item #17. United Eagle Timber Sale: Meeting Visual Quality Objectives**

Visual impacts of helicopter units viewed from residences in the Burnt Valley and the economic viability of helicopter operations on the Forest. There had been a number of public meetings on this planning area where opponents had contended that the Forest Service would change the visual image of Eagle Mountain forever with our proposed sale. Monitoring was done by discussions with some of the local landowners, through discussions with sale administration and other district employees and with some of the Forest specialists who had been involved in the sale planning.

#### **What was learned through monitoring:**

- 1) Cutting unit boundaries could not be identified post harvest from the Burnt Valley road, except during the first fall when some red slash from the tops was visible on the ground in the early morning and late afternoon sunlight. Other than some concerns expressed about the helicopters flying early in the morning and the sound bouncing off the valley walls, there were no other issues raised.
- 2) The stand prescriptions were too conservative and additional volume could have been removed in many areas without adversely impacting visuals from the valley.
- 3) Information was gained from this sale operation, which provided a better understanding of helicopter yarding economics and applications. The outcomes of applying this information will be fewer road scars on the hillsides in visual corridors, while still allowing for the management of timber stands.

### **Monitoring Item #18. North Fork Chewelah Creek Recreation Use**

Monitoring of off-road activities of forest visitors. This monitoring was done by a number of people over a long period of time culminating in a report by the district Recreation Technician and district Hydrologist. Other people involved included the Forest Trails Coordinator, Recreation Resources Assistant and Law Enforcement Officer. There are a vast number of miles of user created 4 wheeler trails in the North Fork Chewelah Creek area. Some of these trails are very dangerous for several reasons

including: limited site distances on the trails and at intersections with forest roads, hand constructed bridges made of native materials and lashed together with rope and twine, trees which have fallen across the trails and poor design of the trails. These trails are also causing resource damage where they are too close to streams, access steep slopes, and lead to wet areas where the users' play in the wet meadows and turn them into mud holes.

What was learned through monitoring: There are increasing resource and safety concerns in the North Fork of Chewelah Creek from forest visitors on 4 wheelers. Several attempts to discourage use have resulted in the barriers being removed, gone around, or new trails built next to them by the visitors. These attempts to discourage use also appear to have increased the amount of vandalism in the area to other facilities including fencing and outhouses.

**Monitoring Item #19. Laurier TV Club Translator Site Special Use Permit (SUP)**

This site has a long standing set of safety concerns including wiring not to code, exposed wires, wires on the ground, in trees and under the railroad tracks. In addition, there is an issue with fall protection requirements in conjunction to the building. These items have been brought to the attention of the permittee, but have not been adequately rectified. District personnel including the District Ranger, SO Specialists, Washington State Electrical Inspectors and representatives from Burlington Northern Railroad have monitored the site numerous times over the years.

What was learned through monitoring: There are a number of very serious public safety and potential wildland fire issues related to this SUP. It is imperative to monitor all construction work on SUPs from the onset. Plans of operation and diagrams should be approved prior to construction. Roles need to be clearly understood in regards to the fact that an SUP is a "permit" and not a landlord/tenant relationship. This role needs to be clear enough in SUP wording that for other entities, such as power companies, know that this IS a different situation and will work with us to correct the problem. Our biggest roadblock to correcting the safety issue has been the unwillingness of the power company to turn off the power at our request. Or for that matter, they also haven't shown an interest in working with the permittee to correct the issues.

**Monitoring Item #20. Thomas Mountain Pit, State Route 20 East, Washington State Department of Transportation (WSDOT), SUP**

Several issues have been monitored constantly over the last 5 years such as: safety, damage to the road resource, sedimentation into the wet lands and Hande Creek, spread of noxious weeds, and rehabilitation. This has been a longstanding cooperative effort between the Forest and WSDOT to provide rock for an all weather lift for major portions of the State Route 20 East project between Colville and Tiger. The rock was used for a

lift of the road surface, which was several feet in depth and was done in the areas between roughly Coffin Lake and the switchbacks before Tiger. The rock is also being used for the resurfacing work done for the entire length of the road between Colville and Tiger.

What was learned through monitoring:

- 1) Constant reminders to WSDOT were required to make them comply with the SUP provision to keep the public off the haul route (which was closed by a CFR) between the Thomas MTN Pit and the State DOT rock pit on the South Fork Mill Creek County Road. This route was getting upwards of a hundred truckloads of rock per day at times, between the pit and stockpile site. Part of the problem that contributed to this was that the Forest Service project administrator could not deal directly with only the WSDOT employees, who then had to talk to the contractor, who then had to talk to the sub contractors, who then had to instruct his employees, who for the most part did not share the same safety awareness. The Forest Service recognized this safety issue well before the first piece of equipment was moved on to the site. This became evident when one of the truck drivers had an accident and suffered almost fatal injuries when he drove his truck off the road and down several hundred feet to the creek bed below!
- 2) Constant reminders to WSDOT were required to keep the silt fence in place and in proper repair. The silt fence was near the pit area between the haul road and the creek/wet lands and was an important mitigation measure identified in the NEPA process. In addition, each autumn the Forest had to point out the mitigation measures which were needed to contain sedimentation in the pit area over the winter.
- 3) There was a consistent problem with WSDOT not meeting the terms of the SUP in terms of providing timely warning of when blasting in the pit was to occur.

**Monitoring Item #21. Little Pend Oreille (LPO) Lakes Campgrounds and Off-Road Vehicle Use**

There is a safety and visitor experience conflict related to the use of off-road vehicles in campgrounds. The district's Recreation Technician, Resources Assistant, District Ranger, Law Enforcement Officer as well as the Forest Recreation Officer and the Concessionaire for the campgrounds monitored this conflict. The issues related to this problem include:

- i) A dramatic increase in off-road vehicle use in the general forest areas and in the LPO.
- j) Unlicensed vehicle use on forest roads and county roads, (as well as crossing of State Route 20).
- k) Lack of trailhead parking locations.
- l) Lack of suitable and designated off-road trails on the Forest except for the system in the lakes area that connects to the Batey-Bold system on Newport Ranger District.

- m) Alcohol use by off-road vehicle operators.
- n) Excessive speed and noise in the campgrounds by off-road vehicle operators.
- o) A trailhead in the campground designed and compatible 20 years ago when there were far fewer riders accessing the trails from any place other than the campground.
- p) A trail system designed for 2 wheeled off-road vehicles when there are almost as many, or more, 4 wheeled off-road vehicles in use.

What was learned through monitoring:

- 1) The Forest's approach to the motorcycle trails is outdated. An off-road vehicle policy and direction for the Forest needs to be developed.
- 2) There is a major user conflict in the campgrounds as some of the campers come for peace and quiet associated with the lakes and others come to ride the hills.
- 3) There is a trailhead location on the county road, but no parking area so riders had to break the law and drive their off-road vehicles on the county road.
- 4) Trailhead parking is provided on one side of State Route 20, away from the campgrounds. However, the trail system has several loops, which tie into the other side of the highway and back to the campground. Therefore, riders want to make the loop, drive the county road and cross the highway to get back to the parking area.
- 5) The campground has a well-established trailhead. This facility invites riders from not only inside the campground, but also from the trailhead parking area and from private summer homes in the area to ride through the campground to access this trailhead.
- 6) There is a safety concern with trails designed for two wheeled motorcycles being used by 4 wheelers.
- 7) There is an identified safety problem with lack of designed 4 wheeler trails near the lakes. Thus there is an ever-increasing use of these vehicles on county and forest roads, including by driver's too young to have a license.

**Monitoring Item #22. Milk Creek Stockpile Location, WSDOT, SUP**

This site had a long standing SUP with WSDOT that was recently determined to be in violation of INFISH and thus the Forest Plan direction. Milk Creek runs through the site and had been rerouted by the DOT. Milk Creek empties into Sherman Creek. The site was used for winter road sand storage and was a constant source of sedimentation into Milk Creek and thus Sherman Creek due to the constant activity and lack of vegetation on the site. The site has been visited numerous times by district and SO employees.

What was learned through monitoring: It is possible to take action to remove historical uses in RHCAs and return these areas to more natural conditions. The removal of the

stockpile and the subsequent rehab of this site will enhance the stream conditions by reduced sedimentation rates, a significant reduction in petroleum by products, which reach the water and cooler stream temperatures.

**Monitoring Item #23. Orient Water System Weir and Containment Pond, SUP**

The weir for the Orient water system was in need of maintenance. Monitoring of the site was accomplished by SO employees, the District Ranger, District employees and representatives of the Orient Water Board. There was some concern that the weir might fail, which could have caused significant resource damage to the creek bed, damage to down stream water treatment facilities and private land below NF ownership.

What was learned through monitoring: The administration of the permit was somewhat complicated by the fact that the Orient Water Board was looking at alternative ways to obtain their domestic water supply through a municipal grant. Therefore, some maintenance was being deferred until the Board made a final decision.

The Forest needs to focus on administration of the permit and stay out of local politics.