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United States  
Department of  
Agriculture

Forest Service

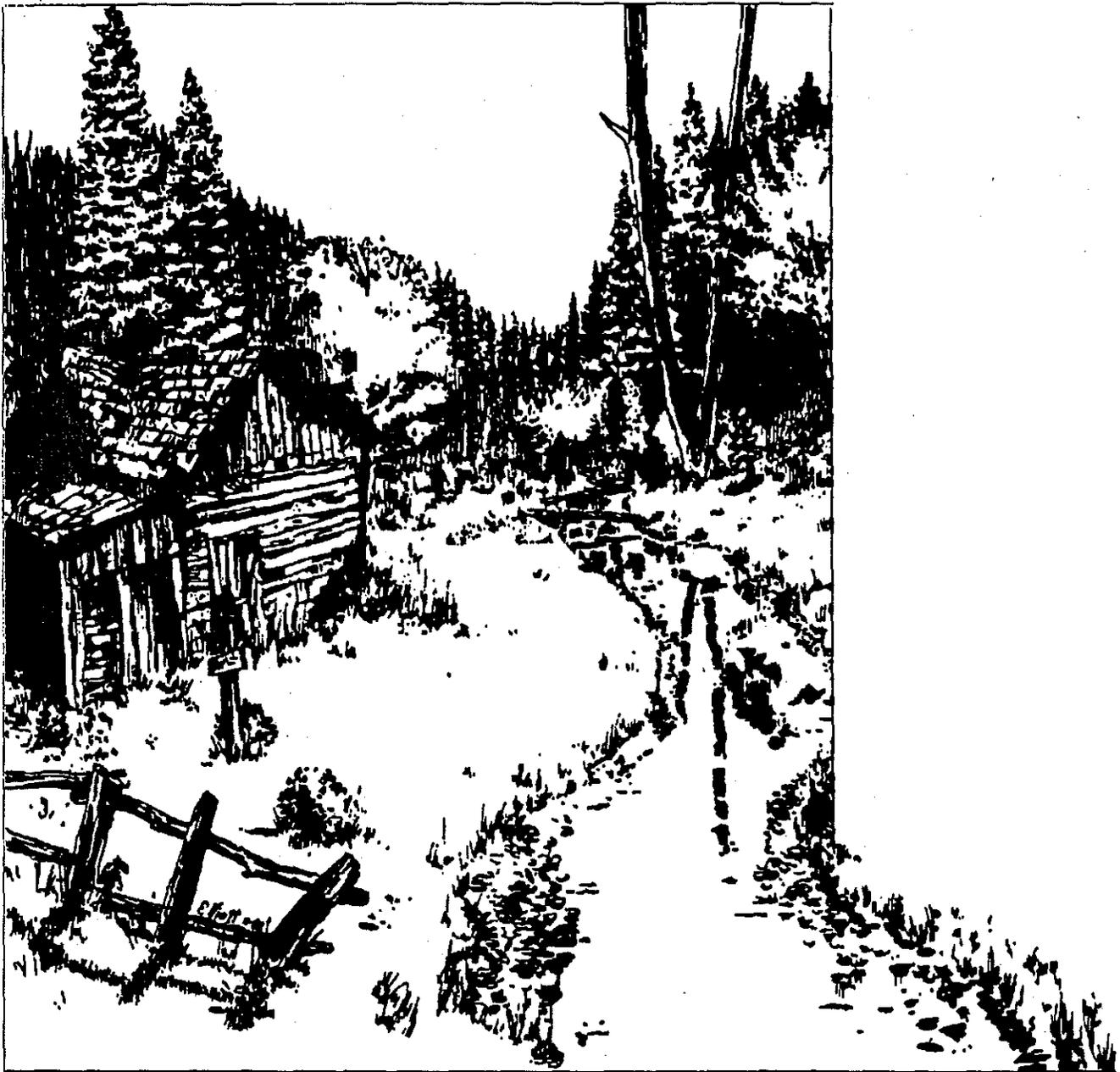
Pacific  
Northwest  
Region

1991



# Colville National Forest Land and Resource Management Plan

## Monitoring and Evaluation Report: 1989 and 1990



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### Forest Plan Appeals

5-1



United States  
Department of  
Agriculture

Forest  
Service

Colville  
National  
Forest

695 South Main  
Federal Building  
Colville, WA 99114

Reply To: 1920

Date: March 8, 1991

Dear Colville Forest Planning Participant:

For the past 2 years, the Colville National Forest has been planning and carrying out projects on the forest under the guidelines of the Colville Land and Resource Management Plan - known as the Forest Plan.

One of the actions called for in the Forest Plan is a process called monitoring, where Forest staff review projects on a sample basis to determine if Forest Plan guidelines are being followed and Forest Plan objectives are being met.

A monitoring report covering projects sampled on the Colville National Forest during 1989 and 1990 has just been completed and is available to the public. In an effort to ensure the monitoring report is sent to only those that want to receive it, (thereby minimizing printing and postage costs,) a postcard is enclosed in this letter that you can mail to the forest, if you want to receive the 55 page report.

The postcard should also be mailed to the forest if you want to remain on the Forest Planning mailing list. Those remaining on that mailing list will receive future amendments to the Forest Plan. Currently, amendments are being developed that involve updates to project schedules and more specific standards and guidelines for projects around Bead Lake.

Sincerely,

EDWARD L. SCHULTZ  
Forest Supervisor

Enclosure



# 1. INTRODUCTION

The Land and Resource Management Plan (Forest Plan) for the Colville National Forest was approved by the Regional Forester on December 29, 1988 and became effective on February 13, 1989. The Forest Plan specifies which areas of the Forest are to be managed using various management emphases, sets standards and guidelines for management, establishes projected levels of goods and services, and specifies monitoring requirements.

Monitoring must take place to determine if the Forest Plan is being implemented as intended, how effective Forest Plan implementation is toward achieving the desired future condition (as stated by Forest Plan objectives), and to verify that the various assumptions that were made during planning were and are still valid. Monitoring analysis results are then evaluated to determine whether the Forest Plan should be revised or amended.

This report summarizes results of Forest Plan implementation, monitoring, and evaluation for fiscal years 1989 and 1990. All subsequent reports will be issued annually and will summarize results for just the latest complete fiscal year.

The purpose of this report is to provide information to the agency and the public about how well Forest Plan objectives are being met. This and subsequent reports will be used to provide information for the 5 year Forest Plan review called for in the forest planning regulations. Those regulations require the Forest Supervisor to "review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have changed significantly."

This report is composed of five chapters and uses a format proposed by the Land Management Planning Staff in the Washington D.C. Office.

**Chapter 2, Accomplishments**, summarizes the individual resource program objectives and highlights particular accomplishments which help to achieve those goals. This chapter also provides a tabular comparison of planned versus actual outputs and activities.

**Chapter 3, Financial and Economic Review**, contains summaries and tables which describe the Colville National Forest and the surrounding counties in financial and economic terms.

**Chapter 4, Forest Plan Monitoring**, identifies the various activities, costs and/or outputs that were monitored and provides results and evaluation of the monitoring process, as well as recommendations for future actions.

**Chapter 5, Forest Plan Appeals**, identifies the Forest Plan appellants, discusses the major issues related to each appeal, and describes the status of the appeal.

Although we have made some conclusions with respect to Forest Plan implementation, several years of monitoring will be necessary to allow meaningful evaluation and conclusions to be made. One or two years of monitoring information is insufficient to indicate significant trends. As monitoring continues during the next few years, trends will be established that will provide valuable information for shaping the future management of the Forest.

We welcome your feedback regarding the information found in our first Monitoring and Evaluation Report. Thank you for your interest in the management of a very special area...the Colville National Forest.

## 2. ACCOMPLISHMENTS

This chapter summarizes the overall objectives for each resource program on the Colville National Forest and then summarizes the accomplishments of each program to date. Table 2.2, at the end of the chapter, compares actual levels of various outputs, effects, activities and costs for FY 1989 and 1990 with those stated in the Forest Plan. The accurate monitoring of these items shown in table 2.2 can be used as indicators of the success of Forest Plan implementation.

### Recreation Program

#### Program Objectives

The objectives of the Forest's recreation program over the next 10 to 15 years are described in the Forest Plan, pages 4-7 to 8. Those objectives include the following:

- providing high quality semiprimitive recreation opportunities in portions of the Profanity, Bald-Snow, Twin Sisters, Hoodo, South Huckleberry, Abercrombie-Hooknose, Harvey Creek, Grassy Top, and Salmo-Priest A and B roadless areas,
- providing high quality roaded natural recreation opportunities by ensuring that all resource management activities maintain high to moderate visual quality in selected viewsheds,
- upgrading existing fee campgrounds and trailheads,
- providing cross country skiing, snowmobiling, and other winter sports opportunities and continuing cooperative efforts for snowmobile trail grooming,
- coordinating with agencies and groups to ensure the Forest's recreation program is compatible with their plans and policies, and

- monitoring areas where recreation management is emphasized to ensure objectives are being met and resource conflicts are minimized.

#### FY 1989 Accomplishments

Trail construction and reconstruction mileage for FY 1989 was just 3 miles short of the targeted 26 miles. A minor amount of ORV monitoring was accomplished. Coordination with other agencies was an ongoing effort. No new recreational special use permits were issued or reissued. The Sherman Highway Viewshed Implementation Guide was 75% complete. Cross country ski trails were developed at the 49 Degrees North Ski Area.

#### FY 1990 Accomplishments

The Forest's strategy in providing high quality semiprimitive recreation experiences in the listed roadless areas is to focus on trail construction or reconstruction and to provide or improve access to those areas. Trail projects were completed that improved access to the Bald-Snow and Profanity roadless areas.

The Sherman Pass National Scenic Byway was dedicated (Highway 20 between Republic and Kettle Falls).

No viewshed implementation plans were completed. Viewshed implementation plans are scheduled to be developed for a number of viewsheds within Management Areas 3A, 5, and 6. Those management areas have visual quality as a primary management objective. Activities proposed within those management areas are designed to meet those visual quality management objectives.

Trailheads were constructed at Cougar Mountain, Bearpot, Thirteen Mile, and Batey Boulder.

The White Mountain Fire Information Site was completed. The site, located on Highway 20 between Kettle Falls and Republic, includes interpretive signs that describe the fire history of the area, efforts to control the 1988 fire, and a description of the progress made to rehabilitate the site after the fire.

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## Accomplishments

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All districts on the Forest provide opportunities for winter sport activities. Colville, Newport, Republic and Sullivan Lake ranger districts provide plowed parking areas and trailheads for cross country skiers and snowmobilers. Those ranger districts also participate in cooperative agreements for trail grooming.

Coordination with other agencies is initiated during the scoping for any project to ensure that the Forest's recreation program is compatible with their plans and policies.

### Partnerships

Partnerships were forged between the Forest Service, private sector companies, and citizen groups to complete two projects during FY 1990.

#### Big Meadow Lake Area

The Big Meadow Lake area on the Colville Ranger District includes foot trails, campsites, a hand-capped accessible fishing dock, boat launch, electric aerator, range and wildlife habitat improvements, and a wildlife viewing tower.

Partners in the Big Meadow Lake effort currently include the following: ABC Laboratories, Fogles Pump & Supply, Vaagen Brothers Lumber Company, Northwest Alloys, Good Sams Club, Tri-County Hound Dog Club, Washington Water Power, Colville Construction Company, Colville Lions Club, Boise Cascade, Arden Logging, Upper Columbia Fly Fisherman's Club, NE Washington Rural Resources Development Association, Colville Confederated Tribes, Colville Electric, Echo Bay Mines Ltd, Boy Scouts, Inchelium Tribal Wood Treatment Plant, Senior Citizen Supplemental Employment Program, and Young Adult Conservation Corps.

#### Mill Pond Historic Site

The Mill Pond Historic Site on Sullivan Lake Ranger District includes the following: road reconstruction to improve access to the Mill Pond Dam, footbridge across the dam and an observation platform overlooking the spill lake, interpretative trail providing access to portions of the flume and several historic buildings, park benches, picnic tables, foot trail around the pond, reconstruction of the boat access, and a new trail along Elk Creek. All of the facilities developed at Mill Pond are accessible by the handicapped. This project's

contribution to the community's sense of identity was considered to be a major accomplishment.

Partners involved in the Mill Pond effort include the following: Public Utilities District, Inland Empire Chapter of Telephone Pioneers, Lafarge Corporation, Vaagen Brothers Lumber Company, Ione, North Pend Oreille Lions Club, and Senior Citizen Supplemental Employment Program and Youth Conservation Corps. Local residents volunteered on various aspects of the project and provided an oral history about the past use of the Mill Pond Site.

## Cultural Resources Program

### Program Objectives

The objectives of the Forest's cultural resource program over the next 10 to 15 years are described in the Forest Plan, pages 4-8 to 9. Those objectives include the following:

- inventorying the Forest for cultural resource sites,
- documenting and evaluating located sites,
- protecting significant sites,
- enhancing and interpreting selected sites for public education purposes,
- monitoring to ensure cultural resource protection and mitigation measures are applied and effective, and
- monitoring to ensure all cultural resource compliance mandates are being met in a timely and efficient manner.

### FY 1989 Accomplishments

The cultural program took a step forward when a Forest archaeologist was hired. The Forest continued to identify, protect, and enhance the value of cultural properties. Two eligibility evaluations were completed for possible inclusion in the National Register of Historic Places. Seventeen thousand acres were inventoried for cultural resources. Nineteen new properties were documented.

### **FY 1990 Accomplishments**

The Forest archaeologist surveyed all potential land disturbing projects to ensure cultural resource compliance procedures, including documentation, were followed. Inventory, site documentation, and report preparation was performed by ranger district staff. Two districts hired archaeologists for the field season and a third district hired a person who is currently completing professional qualifications. All three districts plan to retain these positions next year. Over 13,000 acres within larger planning areas were field surveyed for cultural resources and a total of 109 new properties were documented.

About 35 cultural properties were monitored by the Forest archaeologist to ascertain site protection status. This included post-harvest review of areas containing properties.

A replica of a homestead cabin is under construction near Big Meadow Lake. The cabin is located on a former homestead site and will serve as a historical interpretive site as well as a warming shelter for winter sports enthusiasts. Completion is expected in FY 1991.

### **Major Projects**

The Forest coordinated a number of major cultural resource efforts during FY 1990.

#### Pioneer Park Public Archaeology Project

One of the few known major archaeological sites on the Forest is located on Newport Ranger District's Pioneer Park Campground. This was a major village and food-processing site dating back several thousands of years. In response to a proposal to expand facilities at the campground, extensive test excavations were conducted at the site to ascertain the nature and significance of a number of cultural features.

The project was performed in partnership with Washington State University, the Kalispel Tribe and the U.S. Air Force. The Washington State University archaeological team led the excavation efforts which included training and employment of almost 40 public volunteers. Tribal elders assisted as cultural consultants. The Air Force contributed by providing equipment necessary for the excavation.

The Forest archaeological staff guided tours of the excavation site for the public and schools. These tours are part of the Forest's developing program of making archaeology accessible to the public. About 1500 people participated in this program. The public archaeology program is expected to continue on a smaller scale over the next several years.

#### LeClerc Historic Logging District

Evaluation and historical research of early logging operations on Sullivan Lake Ranger District's LeClerc Creek drainage was initiated this year by contract award. One of the objectives of this project is to evaluate the significance of individual cultural properties within the larger framework of an historic district. In this instance, research will look at the significance of early logging activities toward the social and economic development of the Pend Oreille River valley. This approach allows for better management planning for the resource.

Objectives for FY 1991 for the cultural resource program include development of an inventory plan to direct archaeological and historical investigations on Forest lands more efficiently and to establish a research database. The database will improve the ability to access the significance of the various cultural resources.

## **Wilderness Program**

### **Program Objectives**

The objectives of the Forest's wilderness program over the next 10 to 15 years are described in the Forest Plan, pages 4-7 to 9. Those objectives include the following:

- managing the Salmo-Priest Wilderness to preserve its wilderness character,
- developing an action item implementation schedule for the wilderness,
- converting the Crater Lake fishery to cutthroat trout and continuing the helicopter stocking of Crater and Gypsy Lakes with native species, and

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## Accomplishments

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- monitoring to ensure wilderness attributes are maintained and review applicability of use capacity estimates.

### **FY 1989 Accomplishments**

The major effort in the wilderness area was reconstruction of Trail #526. A total of 2.2 miles of trails were reconstructed in the wilderness area. Approximately two miles of wilderness boundary were surveyed and marked.

### **FY 1990 Accomplishments**

The Wilderness Implementation Schedule is being developed and is scheduled to be completed in 1991.

## **Wildlife, Fisheries, and Threatened, Endangered and Sensitive Species Program**

### **Program Objectives**

The objectives of the Forest's wildlife, fisheries, and threatened, endangered, and sensitive (TES) species program over the next 10 to 15 years are described in the Forest Plan, pages 4-10 to 13. Those objectives include the following:

- protecting and managing wildlife and fisheries habitat through coordination with other Forest management activities,
- surveying habitats for condition and trends,
- maintaining records of threatened, endangered, and sensitive species occurrence and activity, both on and adjacent to the Forest,
- coordinating with other agencies, including Washington Department of Wildlife, Idaho Department of Fish and Game, and US Fish and Wildlife Service,
- meeting recovery objectives for threatened and endangered species and developing supplemental Forest guidelines when necessary to provide specific direction for management of those species' essential habitats, and

- monitoring to ensure management activities are contributing toward achievement of the desired future condition of habitats identified in the Forest Plan.

### **FY 1989 Accomplishments (Wildlife and TES Program)**

Table 2-1 displays FY 1989 wildlife and TES species accomplishments.

Big game habitat capability was increased by 1,165 deer equivalents by forage release through timber harvest (from TSPIRS analysis). Big game habitat capability was increased by 796 acres.

Nonstructural habitat improvements on 80 acres and structural habitat improvements on 182 structures was completed. Potholes for big game were completed at Big Meadow Lake.

The Forest biologist reviewed seven timber sales and reviewed 17,579 acres for big game habitat analysis.

The Forest used pre-timber sale snag marking guides on all sales and implemented snag marking guides (signing) on several hundred acres to maintain habitat for primary cavity excavators.

The Forest field reviewed 16 timber sales, implemented wildlife standards on two Management Area 1 areas, and inventoried 6,300 acres of old-growth to address old-growth habitats.

The Forest coordinated efforts with the Washington Department of Wildlife to evaluate population trends, review road densities and make adjustments on three sale areas, review occupied nests of raptors and pileated woodpeckers and make provisions to retain and protect the nest sites to address other wildlife habitat needs.

The Forest accomplished T&E species habitat improvement on 91 acres. Threatened and endangered species lists were requested for proposed timber sales and informal evaluations were accomplished on seven proposed sale areas. Sensitive plant field guides were used to conduct field surveys. One proposed timber sale area within grizzly bear and caribou habitat had designed timber harvest objectives evaluated for those species.

Forest staffing needs were identified during the Forest planning process to include a fishery biologist, a botanist/ecologist, an additional wildlife biologist to work on Forest plan implementation and monitoring, and at least one wildlife biologist on each ranger district. By 1989, the Forest had increased staffing and had at least one wildlife biologist on each district, and a fishery biologist and an ecologist working out of the Supervisor's Office.

**FY 1990 Accomplishments  
(Wildlife and TES Species Program)**

Table 2-1 displays FY 1990 wildlife and TES species accomplishments.

Timber management on big game winter range included 270 acres of even-aged and 157 acres of uneven-aged harvest in FY 1990. By adhering to the wildlife standards and guidelines, this harvest is projected to yield an average of 27 winter deer equivalents of usable forage annually for 16 years. Habitat improvement work performed with K-V funds from the sale of timber provided an additional 68 deer equivalents of forage. Project time frames varied between 5 to 20 years. K-V projects and timber sale harvest yielded approximately 1090 and 432 deer equivalents, respectively.

District wildlife biologists reviewed timber sales for compliance to Forest Plan prescriptions and standards and guidelines. A winter range model is currently being developed to determine the best alternative for winter range management. Initial model testing will soon take place on sales being planned on the Colville and Kettle Falls ranger districts.

Habitat survey methods were described in the Monitoring Guide that was developed in FY 1990; these methods were demonstrated at a Forestwide biologists meeting. Kettle Falls Ranger District staff have been working on an old-growth forest habitat score card. A committee of biologists initiated efforts to adapt the habitat score card to the various old-growth indicator species habitats for the Forest. The objective of this effort is to evaluate habitat suitability for specific indicator species; this should not be confused with old-growth definitions for various vegetation types.

The conditions of 42 marten and pileated woodpecker habitat units, totaling 16,920 acres, were field-checked. Office reviews were performed on 126 units totaling 56,902 acres. These units were adjusted to provide for the most suitable habitat in the prescribed distribution.

Caribou and grizzly bear habitat was evaluated in two proposed timber sale areas, totaling 90,000 acres. Midwinter bald eagle surveys were completed on three ranger districts, covering 46,300 acres. Of the two bald eagle nests that were reported, one was verified. Surveys also confirmed the existence of a pair of kestrels which were originally reported to be peregrine falcons.

More intensive and extensive sensitive plants surveys were carried out on the Forest in FY 1990 than ever before. Most surveys were conducted by district biologists; Sullivan Lake Ranger District hired a botanist for the summer; Kettle Falls Ranger District had a biologist who emphasized sensitive plants searches, among other duties. Forty-nine areas covering 3965 acres were surveyed for sensitive plants. Twenty-three species were specifically sought. Twenty-four new populations of 18 species of sensitive plants were located, of which 13 populations were relocated. One possible new species was found and sent to a taxonomist for determination.

District biologists and interdisciplinary teams contacted Washington Department of Wildlife (WDW) Environmental Coordinator for input on timber sale analyses. The Forest prepared environmental documentation and cooperated with the the WDW and Washington Trappers Association to reintroduce pine martens. The feasibility of introducing peregrin falcons on Colville Ranger District is being examined by the Forest, in association with WDW and with the assistance of the Peregrine Fund. The WDW and the U.S. Fish and Wildlife Service provided Forest biologists technical information regarding the effects of management activities on threatened and endangered (T&E) species.

Endangered Species Act administrative activities, in FY 1990, included the following: 12 T&E species lists requested, 22 biological evaluations were written involving 4 T&E animals, 3 sensitive animals and 4 sensitive plants, and 16 informal consulta-

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## Accomplishments

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tions with the U.S. Fish and Wildlife Service were done, 3 Biological Assessments were written, and 1 formal consultation was initiated on the proposed Leola-Sullivan timber sale on the Sullivan Lake Ranger District.

Supplemental Forest Guidelines for the grizzly bear and the mountain caribou were included in the Forest Plan EIS, Appendices H and I. The unified *Grizzly Bear Cumulative Effects Model* was published in 1990, and the *Determining Grizzly Bear Nuisance Status* was revised.

### **FY 1989 Accomplishments (Fisheries Program)**

Table 2-1 displays FY 1989 fisheries accomplishments.

In FY 1989, the Forest hired a full-time fishery biologist. Nonstructural habitat improvements of 17 acres and structural habitat improvements of 75 structures were accomplished. Fish habitat inventories were conducted on 62 miles of streams and fish population composition surveys were conducted on 31 miles of streams. Partnerships were initiated with Washington State, Ducks Unlimited, and the Rocky Mountain Elk Foundation to develop potholes, close roads and create snags.

### **FY 1990 Accomplishments (Fisheries Program)**

Table 2-1 displays FY 1989 fisheries accomplishments.

Approximately 160 structures were constructed to improve fish habitat and approximately 40 miles of streams were surveyed on the Forest.

Table 2.1 Wildlife, Fisheries, and T&E Species Accomplishments

	Forest Plan Average Annual Accomplishments For 1st Decade	FY 1989 Accomplishments	FY 1990 Accomplishments
Nonstructural T&E Habitat Administration (acres)			
Grizzly Bear Habitat Protection/Mgmt. 1/	150,000		90,000
Caribou 1/	84,000		90,000
Sensitive Wildlife Surveys/Mgmt.	10,000		0
Sensitive Plants Surveys/Mgmt.	10,000		3,965
Bald Eagle & Peregrine Falcon Surveys	0		46,330
Nonstructural Wildlife Habitat Improvements (acres)			
Browse Planting and Seeding	505	} 876	315
Prescribed Burning	1,250		780
Slashing/Pruning	40		72
Nonstructural Fish Habitat Improvement (acres)			
Beaver/Trout Habitat Rehabilitation	12	} 17	10
Lake Rehabilitation	2		0
Riparian Vegetation Rehabilitation	7		115
Spawning Gravel Placement/Cleaning	2		0
Nonstructural T&E Habitat improvement (acres)	120	91	0
Structural Wildlife Habitat Improvement (structures)			
Fence to Protect Improvements	1	} 182	0
Waterfowl Nests	40		2
Songbird Nest Boxes	200		75
Raptor Nest Structures	12		5
Marten Den Boxes	30		80
Snag Development:			
Top Girdling	400		0
Top Blasting	400		0
Top Cutting	0		388
Pole Erection (20 ft.)	20		15
Pot Holes Development	5		4
Spring Developments	3		0
Wildlife Escape Ramp	10		0
Wildlife Cover (Brush Piles)	20		0
			0
Road Closures	0		71
Mountain Goat Viewing Site	0		Incomplete
Structural Fish Habitat Improvement (structures)			
Boulder Placement	10	} 75	0
Check Dams	50		163
Log Deflectors	10		0
Spawning Facilities	2		0
Lake Plug	1		0
Stream Barrier Removal	20		0
Culvert Replacement	1		0
Powerline for Aerator 2/	0		7
Structural T&E Habitat Improvement (structures)			
T&E Species Road Closures	2	} 0	10
Floating Loon Nests	0		4
Bear-proof Garbage Containers	0		68
Maintenance of Habitat Structures (structures)			
Wildlife Structures	200	} 0	0
Fish Habitat Structures	20		3
T&E Species Structures	20		0

1/ Forest Plan level is total habitat on forest; accomplishment is amount of acres modeled for environmental assessments in 1990.

2/ Powerline is 3.5 miles long; lineal structures are reported as one structure per 1/2 mile.

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## Accomplishments

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### Range Program

#### Program Objectives

The objectives of the Forest's range program over the next 10 to 15 years are described in the Forest Plan, page 4-14. Those objectives include the following:

- providing sufficient forage for grazing of 35,000 animal unit months (AUMs) annually,
- phasing out the use of less efficient grazing areas and intensifying the use of the most efficient grazing areas,
- minimizing conflicts with other forest uses through coordination of grazing restrictions in identified conflict areas,
- improving the condition of the Forest's range areas by controlling oxeye daisy and noxious weeds and by fencing and water development projects, and
- monitoring trends in range use and demand and use conflicts to establish a level of permit issuance at end of current term grazing permit period.

#### FY 1989 Accomplishments

Approximately 35,100 AUMs were utilized. No range allotment management plans were updated.

#### FY 1990 Accomplishments

The Forest provided 34,758 AUMs in 1990.

Analysis was completed on several allotments. These analyses consisted of surveying range conditions and identifying less efficient areas that should be phased out in favor of more efficient areas.

Range specialists helped plan projects which affected range areas so that conflicts between range and other Forest uses would be minimized. And, specialists from other disciplines were used to plan range development projects

The annual range improvement program included 235 total acres of oxeye daisy and noxious weed control, 6 miles of fencing, and 12 water developments.

### Timber Program

#### Program Objectives

The objectives of the Forest's timber program over the next 10 to 15 years are described in the Forest Plan, pages 4-14 to 26. Those objectives include the following:

- reviewing impacts of significant changes of timber supply and demand on land suitability,
- shifting to a more balanced use of both even and uneven age management systems,
- treating managed Forest stands to promote tree growth, create wildlife cover, and meet other resource objectives by planting approximately 4,200 acres annually and precommercial thinning about 8,200 acres per year,
- providing an average annual allowable sale quantity of 123.4 MMBF (28.7 MMCF) over the first decade,
- supplying an average of 15 MMBF demand of firewood annually and 7.5 MMBF of material to be used by the Ponderay Newsprint Company, and
- monitoring to ensure standards and guidelines are being met and resource outputs are being achieved, to ensure the Forest is meeting its goal of environmentally acceptable commodity production.

#### FY 1989 Accomplishments

The Forest offered 121 MMBF 120 MMBF of timber in FY 1989 timber market, 127 MMBF of harvested.

Of the 10,900 acres scheduled by the Forest Plan only 9,119 harvested in FY 1989. The 1989 were from timber sales issued since issuance of the Forest Plan.

#### FY 1990 Accomplishments

The Forest silviculturist made several trips to ranger districts to resolve suitability questions on specific units programmed for harvest. Where it was

determined the land in question was unsuitable for harvest, activity was deferred. In addition to the forestwide suitability determinations made in the Forest Plan, a process for identifying and documenting site-specific suitability determinations is being developed.

The Forest has sponsored workshops to train district silviculturists on how to analyze and prescribe uneven age harvest treatments, in response to the need of balancing the use of uneven and even age management. Timber sale environmental assessments signed after the Forest Plan was issued incorporate the use of uneven age treatments where appropriate to meet management area objectives.

In terms of even age management, clearcut harvest units on two ranger districts were field-reviewed. These units had wildlife replacement trees marked (approximately 5 per acre), hardwood trees and shrubs were retained, and no site preparation burning was programmed. These actions are designed to contribute to the maintenance of long-term site productivity and biodiversity. In seed tree and shelterwood harvest units that include an overstory component, more overstory is scheduled to be retained over the long term, rather than be harvested once regeneration has taken place.

Planting and thinning treatments are being modified to respond to the needs of other resources. For example, some units containing grouse habitat are being precommercially thinned at a closer than optimum timber production spacing, in favor of the grouse. In areas where big game thermal cover is an objective, spruce and fir are favored over larch because larch sheds needles in winter and does not provide good thermal cover. Traditional silvicultural treatments will be used less as other resource management objectives are better defined.

The Forest is not accomplishing the level of stand culturing activities, primarily thinning, to the level projected in the Forest Plan, in part due to lack of funding. Dissaggregating the FORPLAN model for the first decade indicated about 2,700 acres were in the "thin now" condition class. The Forest received funding to thin 1,400 acres in FY 1989

and 1,700 acres in FY 1990. Yields associated with the ASQ may be affected if the Forest continues to not meet projected thinning levels.

The Forest Service offered 127 MMBF for sale in FY 1990; the ASQ sold in 1990 was 109 MMBF. A downturn in the timber market caused a decrease in the amount of timber that was actually harvested on the Forest in 1990. Sawtimber harvested in FY 1990 equaled 86 MMBF, on 4,810 acres.

Sales with smaller diameter material are being prepared and sold in response to the increasing demand for small diameter timber. A total of 6.1 MMBF of commercial and personal use firewood permits were sold in 1990 and 2.5 MMBF of pulpwood was harvested.

In addition to the standard firewood program on the Forest, the Colville Ranger District, in partnership with Stevens County, NE Rural Resources Energy Program, Colville Job Services, and Vaagen Bothers Lumber has begun Project HEAT, a firewood program for low income senior and disabled citizens. Under this program, local youth fulfilling their community service time cut and deliver firewood to the recipients.

## **Soil and Water Resources Program**

### **Program Objectives**

The objectives of the Forest's soil and water program over the next 10 to 15 years are described in the Forest Plan, pages 4-26 to 27. Those objectives include the following:

- protecting the Forest's soil and water resources through coordination with other resource management activities,
- conducting watershed restoration projects which in general involve stabilizing cut and fill slopes on unstable soils,
- coordinating with the Washington Department of Ecology to secure water rights,
- coordinating with other agencies or interested parties on other watershed issues,

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## Accomplishments

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- managing Threemile Creek to protect the domestic water supply and fish pond at the Luhr residence,
- maintaining the productivity of Forest soils by using best management practices to minimize erosion, compaction, and displacement,
- analyzing the cumulative effects of management activities on soil and water resources, and
- monitoring to determine if management activities are changing soil and water resources and if changes are within acceptable levels.

### **FY 1989 Accomplishments**

In FY 1989, a fisheries biologist, hydrological technician, and riparian ecologist were hired to increase the quality and quantity of specialist input into project planning and implementation. The Forest accomplished 10 acres of watershed enhancement projects.

### **FY 1990 Accomplishments**

Interdisciplinary teams were used during project planning to ensure soil and water protection objectives, as outlined in the Forest Plan, were met.

The Forest accomplished 160 acres of watershed enhancement projects, with an associated cost of \$16,000.

One Forest water-right application for a range structural improvement was recorded by Washington Department of Ecology and is expected to be granted in 1991.

The Forest coordinated with the Washington Department of Wildlife and the US Army Corps of Engineers on a number of projects affecting waterways, including stream crossings and bridges proposed for timber sale access, and development of the Sullivan Lake boat launch ramp.

In FY 1990, project planning efforts on the Forest used the Equivalent Clearcut Acres Model present-

ed in Benoit and Galbraith's *A Water Yield and Stability Analysis Procedure*, as modified by the Forest's hydrologist. The Forest is currently examining the potential for modifying the Region 1/Region 4 Sediment Production Model for use on the Colville.

The Forest hydrologist and the Forest Leadership Team completed post-sale monitoring reviews of the effects of timber sales on soil productivity and water quality.

## **Air Quality and Fire Protection and Use Program**

### **Program Objectives**

The objectives of the Forest's air quality and fire protection and use program over the next 10 to 15 years are described in the Forest Plan, pages 4-27 to 28 and 4-31 to 32. Those objectives include the following:

- reducing the total suspended particular emission produced on the Forest by using prescribed fire to reduce fire hazards when no other treatment method is available,
- monitoring the effects that fuels management programs have on localized air quality to ensure compliance with state air quality standards,
- protecting Forest resources from wildfire, while minimizing the cost of protection,
- using prescribed fire to reduce fire hazard and to prepare sites for regeneration,
- developing a fire management action plan to guide all fire management activities,
- coordinating with other resource management activities, principally timber sales,
- coordinating with other agencies fire protection and suppression efforts, principally Washington Department of Natural Resources, Bureau of Indian Affairs for the Colville Indian Reservation, and British Columbia Forest Service,

- providing fire protection for lands administered by the Bureau of Land Management, and
- monitoring the effects of the fire management program to establish if program activities meet the cost plus net value change criteria.

#### **FY 1989 Accomplishments**

Localized air quality was monitored on a continuous basis. New agreements were made with the State of Washington that eliminate the use of prescribed fire on weekends from July 1 to September 30. In addition, prescribed fire was eliminated on approximately 30 days due to weather conditions that created poor smoke dispersal.

Analysis continued to show that fewer areas need to be treated by fire. Original estimates of acres which required site preparation burning were reduced by 125 acres. The total area treated by fire for hazard reduction was 4,200 acres.

A total of 51 fires occurred on the Forest, (36 lightning and 15 human caused) which burned 260 acres on the Forest.

#### **FY 1990 Accomplishments**

Appropriate fire prescription planning begins with identifying when prescribed fire is a necessary solution to achieve management objectives during the timber sale planning process. Prescription planning continues through to the development of a site-specific plan for the site. In addition, the site is usually revisited after harvest to confirm that prescribed fire is still necessary to meet management objectives.

All prescribed fires on the Forest are cleared with the Washington Department of Natural Resources, which coordinates all burning conducted in the State so that State air quality standards are met. Review of opportunities to forego burning for site preparation purposes resulted in reducing the amount treated by burning by 125 acres.

Planning has begun on an air quality monitoring program for the Salmo-Priest Wilderness. A contract for that program is scheduled to be issued in FY 1991.

The majority of the Forest's fire management action plan was completed in FY 1990. The action plan presents guidelines for fire management activities on the Forest and is scheduled to be issued in FY 1991.

Coordination of fire and fuels management with other resource activities is an ongoing effort on the Forest and is principally reflected in the interdisciplinary planning process for timber sales.

The Forest updated cooperative agreements with other adjacent resource management agencies for fire protection and suppression efforts.

There were a total of 29 wildfires on the Forest (17 lightning and 12 human caused) which burned a total of less than 100 acres on the Forest. There were 6,038 total acres treated by prescribed fire, which included 2,940 for brush disposal, and 2,198 for site preparation

## **Lands Program**

#### **Program Objectives**

The objectives of the Forest's lands program over the next 10 to 15 years are described in the Forest Plan, pages 4-28 to 29. Those objectives include the following:

- consolidating national Forest system lands within the Forest proclamation boundaries,
- acquiring and granting rights-of-way which ensure access to and protection of Forest lands,
- facilitating other land ownership adjustments, consistent with Forest Plan goals and objectives,
- administering approximately 73 miles per year of the landline location program and 3,500 acres per year of the land exchange and acquisition program, and
- granting Federal and State highway easements and rights-of-way by 1995.

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## Accomplishments

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### **FY 1989 Accomplishments**

During FY 1989, the Forest transferred 10,819 acres of land to other interests and acquired 14,694 acres. Those exchanges were with Washington State Department of Natural Resources, Plum Creek Timber Company, and Inland Empire Paper Company. Numerous other exchanges were proposed.

### **FY 1990 Accomplishments**

No land exchanges were completed in FY 1990, however, planning continued for a proposed 10,000 acre exchange with the State of Washington.

The Forest continued ongoing efforts to acquire and grant necessary rights-of-way.

The Forest administered 81 miles of the landline location program, which involved surveying and posting those Forest boundaries.

## **Facilities Program**

### **Program Objectives**

The objectives of the Forest's facilities program over the next 10 to 15 years are described in the Forest Plan, page 4-30. Those objectives include the following:

- developing, maintaining, and managing Forest development road system,
- coordinating with other resource management activities,
- developing long-range transportation plans,
- constructing primarily local timber purchaser roads and reconstructing existing roads for safety or economy of operations,
- using designated utility corridors for future utility needs, whenever possible,
- continuing to manage Sullivan Lake airstrip for use by public and administrative use, and

- monitoring the status of Forest roads by updating the Forest's primary base series map, the transportation inventory system, and Forest travel management schedule.

### **FY 1989 Accomplishments**

The Forest Plan stipulates maintaining 849 miles of road open to passenger cars and 2,500 miles of road open to high clearance vehicles. The Forest had 899 miles of road open to passenger cars and 2,528 miles open to high clearance vehicles. Roads to be closed were scheduled to be identified by each ranger district during 1990.

### **FY 1990 Accomplishments**

The Forest has an ongoing program of developing, maintaining, and managing the Forest's road system. In FY 1990, 4.3 miles of arterial and collector roads were constructed (primarily to provide access to trailheads on Sullivan Lake and Republic Ranger Districts), 119 miles of timber purchaser roads were constructed or reconstructed, 1,859 miles of road were maintained to full standard and 2,038 miles of road were not maintained to full standard (primarily due to funding limitations), 360 miles of road were closed and 197 miles were designated as prohibited to all traffic.

Forestwide, 866 miles of road were open to passenger car travel and 2,671 miles of road were open to high clearance vehicle.

Coordination between the facilities program and other resource management activities is ongoing. In general, the coordination begins during preliminary project planning through the participation of a transportation planner on project interdisciplinary teams.

The Forest's strategy for long range transportation planning focuses on an ongoing effort of revising the existing area transportation plans to ensure they meet Forest Plan objectives, Standards and Guidelines.

## **Minerals Program**

### **Program Objectives**

The objectives of the Forest's minerals program over the next 10 to 15 years are described in the

Forest Plan page 4-31. Those objectives include the following:

- facilitating exploration and development of mineral resources, while providing reasonable surface protection,
- acting on an estimated 150 "operating plans" (includes plans of operation, notices of intent, prospecting permits, materials sales, free use permits, leases, etc., involving locatable, leasable and salable minerals.
- initiating mineral examinations to assess values or rights in cases of suspected occupancy trespasses, wilderness mining claims development, land exchange proposals, or for other administrative purposes,
- initiating technical examinations for mining claim patent applications involving Forest lands, and
- monitoring to identify problems with the approval process and surface protection, mitigation, and reclamation measures.

#### **FY 1989 Accomplishments**

Withdrawal Review required under the 1976 Federal Land Policy and Management Act (see FEIS, page IV-86) was completed. Recommendations to the USDI Bureau of Land Management included a reduction of Forest administrative and recreation withdrawals (excludes powersite and wilderness withdrawals) of 5,664 acres.

The Forest administered a total of 63 "operating plans" during 1989. These included 14 Plans of Operation and no Notices of Intent for locatable minerals. Mineral exploration, particularly reconnaissance level work not requiring Forest Service notification increased in the Republic area. Echo Bay Mines continued mine development at their Overlook (partly on-Forest) and Kettle River (off-Forest) gold deposits. Seventeen salable or mineral material sales and Free Use Permits aggregating 17,395 cubic yards, and 31 in-house disposals involving 26,345 cubic yards were administered. Total estimated value of salable minerals mined was \$12,593. No leasable mineral activity occurred during the year.

#### **FY 1990 Accomplishments**

A total of 76 "operating plans" were administered in 1990. These included 16 Plans of Operation and 4 Notices of Intent for locatable minerals. Mineral exploration picked up, especially in the Republic and "Wedge" (land between Kettle and Columbia Rivers) areas during the year. Echo Bay Mines completed development and initiated gold production in February. Approximately 18 percent of their total production or 13,000 oz. of gold was produced from Forest lands by September 30. Four lode mining claims near Sullivan Lake were contested and found invalid following appeal to the Interior Board of Land Appeals. Eleven salable or mineral material sales and Free Use Permits aggregating 9,033 cubic yards, and 45 in-house disposals involving 18,458 cubic yards were administered. Total estimated value of salable minerals mined was \$8,796. No leasable mineral activity occurred during 1990.

## Accomplishments

**Table 2.2 Resource Outputs, Environmental Effects, Activities And Costs. Comparison of Actual and Planned.**

Outputs, Effects, Activities and Costs	Unit of Measure	Forest Plan Annual Avg.	FY 1989 Quantity	FY 1990 Quantity
Developed Recreation Use	MRVD	365	357	341.1
Non-Wilderness Dispersed Rec (Includes WFUDs)				
Roaded	MRVD	725	782	281.9
Unroaded	MRVD	119	194	67.7
Wilderness Use	MRVD	2.4	5.9	2.8
Trail Construction/Reconstruction	MILES	26	23	22.4
Developed Site Construction/Reconstruction	PAOT	354	240	220
Management Indicator Species 1/				
Grizzly Bear Habitat Capability	NUMBER	6	6	6
Caribou Habitat Capability	NUMBER	33	33	33
Mule & White-tailed Deer	NUMBER	18,800	20,267	18,401
Barred Owl	PAIRS	73	84	81
Pileated Woodpecker	PAIRS	319	368	359
Northern Three-toed Woodpecker	NUMBER	1,149	1,327	1,308
Elk	NUMBER	540	506	336
Marten	NUMBER	431	497	490
Wildlife Habitat Improvement				
Acres	ACRES	1,925	496	1,147
Structures	STRUCTURES	1,140	38	703
Fish Habitat Improvement				
Acres	ACRES	11	7	125
Structures	STRUCTURES	84	30	170
Range-Permitted Grazing	AUMs	35	35.1	34.8
Range-Structural Improvements/Fences	MILES	5	9.8	6.1
Range-Structural Improvements/Water Projects	NUMBER	10	5	12
Range-Nonstructural Improvements	ACRES	1,127	300	235
Timber-Allowable Sale Quantity (offered for sale)	MMBF	123.4	121	127
Timber-Allowable Sale Quantity (offered for sale)	MMCF	28.7	28.6	28.6
Timber Harvested (excludes fuelwood)	MMBF	na	129.0	88.9
Fuelwood 2/	M CORDS	17.9	12.8	12.6

Table 2.2 (Continued)

Outputs, Effects, Activities and Costs	Unit of Measure	Forest Plan Annual Avg.	FY 1989 Quantity	FY 1990 Quantity
Reforestation: 3/ Planted	M ACRES	4.2	4	5.2
Natural	M ACRES	2.8	0.09	0.7
Timber Stand Improvement	M ACRES	8.2	1.4	1.7
Water Yield	M ACRE FEET	981	853	810
Sediment	TONS/YR INDEX	10,279	10,279	8,533
Improved Watershed Condition	ACRES	12	23	30
Minerals (operating plans) 4/	NUMBER	150	74	76
Energy Minerals	BILLION BTUs	0	0.013	0
Non-Energy Minerals (1990 dollars) 5/	MM\$	5,036	0.013	4,352
Arterial and Collector Road Reconstruction	MILES	10	5	4.3
Bridges	STRUCTURES	1	0	1
Timber Purchaser Road Construction/Reconstruction	MILES	98	94	119
Roads Suitable for Public Use 6/ Passenger Car	MILES	849	899	866
High Clearance Vehicle Only	MILES	2,500	2,528	2,671
Roads Closed to Public Use	MILES	1,126	339	360
Total Forest Road	MILES	4,745	3,938	3,898
Total National Forest Budget (1982 Dollars) 7/	MM\$	17.5	11.4	11.7
Returns to Government (1982 Dollars)	MM\$	12.6	9.6	6.3
Human Resource Program	M PERSON YRS	225	na	45.8
Change in Jobs 8/	NUMBER	598	734	-73
Change in Income (1982 Dollars) 8/	MM\$	\$9.0	\$10.7	(\$0.2)
Payments to Counties (1982 dollars) 9/	MM\$	3.3	1.9	1.4
Acres of Available Harvest by Prescription 10/ Clearcut	M ACRES	4.2	3.6	2.7
Shelterwood 11/	M ACRES	2.8	2.6	1.6
Uneven-aged Management	M ACRES	1.7	0	0.05

na..not available

\*RVDs\* denotes \*Recreation Visitor Days\*

\*WFUDs denotes \*Wildlife and Fish Users Days\*

\*AUMs\* denotes \*Animal Unit Months\*

\*BTUs\* denotes \*British Thermal Unit\*

Note: Recreation use for FY 1990 was estimated using new regional sampling and recording system. This produced RVD and WFUD estimates, and subsequent employment and income impact estimates, which can not be compared to previous years.

1/ Grizzly bear and mountain caribou are projected numbers of animals; habitat capability is shown for other species.

2/ Figure for the Plan represents estimate of supply available, not amount demanded or collected.

3/ Acres of reforestation including those areas where natural regeneration will occur following scarification by timber sale operators during logging and subsequent slash disposal.

4/ Includes operating plans, Notice of Intent, prospecting permits, material sales, free-use permits, and leases involving locatable, leasable, and salable minerals.

5/ The values offered here are relative values based upon minerals accessibility and are not intended to be an accurate estimate of mineral production.

6/ The days available for public use would vary even though the miles do not.

7/ Does not include budget for Job Corps Center.

8/ Changes in number of jobs and income are presented as change from BASE scenario. Estimated changes due to Forest Plan are for first decade.

9/ Does not include portion of Kaniksu N.F. administered by Idaho Panhandle N.F. that is in Washington State.

10/ Harvest systems may be applied subject to specific resource objectives and management opportunities identified during project planning. Acres harvested on suitable lands with management emphases that allow timber harvest.

11/ Shelterwood includes only the seed cut.

### 3. FINANCIAL AND ECONOMIC REPORT

It is important to evaluate any major existing or proposed program with respect to its financial and economic characteristics and impacts. This section of the Annual Report, among other things, describes the impacts of fiscal years 1989 and 1990 accomplishments in financial and economic terms. There are three separate sections to this chapter which include the following: 1) a financial report which describes the sources and uses of Forest's funds, 2) an expenditure and economic value comparison report which compares the proposed Forest Plan budget (described in the Environmental Impact Statement) to the actual fiscal year expenditures and compares estimates of actual economic resource values to those in the Plan, and 3) a Socioeconomic report which describes some social, economic and demographic characteristics for counties surrounding the Colville National Forest. These three sections will provide useful information toward evaluating the effectiveness of management programs implemented during FY 1989 and 1990.

Over the next three to five years, the usefulness of this information will increase as the correlation between the monitoring data and the implemented Forest Plan increases. This relationship is currently weak because the Forest may be monitoring effects of actions taken previous to Plan implementation. But as time goes on the Forest will be able to make stronger conclusions regarding changes that must be made to program implementation in order to achieve intended objectives.

#### Financial Report

Tables 3.1-89 and 3.1-90 describe the various sources and uses of funds by the Colville National Forest for each program. The Forest collects revenues through the sale of timber, grazing

permits, recreation use fees, etc. The timber programs produced the greatest amount of revenue, while some programs produced little or no revenue.

Timber revenues reflect commercial market prices. It is Forest Service policy to develop and manage a cost effective timber program. The revenues of other programs such as recreation, wildlife, fish, and range represent user and permit fees which are determined by policy and not by the market. User and permit fees such as these are not developed to fully cover costs of program management. This explains why the timber program is the only program with a positive net cash flow.

Costs in Tables 3.1-89 and 3.1-90 have been allocated to significant components and represent monies spent to implement the Forest Plan.

Fiscal year 1989 was financially a better year than FY 1990 for the Forest. All resource programs, except Lands, experienced a decrease in revenues collected in FY 1990. Total Forest revenues were down \$3.9 million from FY 1989, mostly due to the decrease in timber harvest. Because timber harvests were down in FY 1990, operations and maintenance costs for FY 1990 were down \$1.5 million from FY 1989. Total improvement expenses for recreation, wildlife, and water and soils were up for FY 1990 while all other programs spent less. Total improvement expenses for the Forest for FY 1990 were close to \$100,000 less than FY 1989. General administration expenses varied from one program to the next when compared to the previous year; the total general administration expense for the Forest for FY 1990 was close to \$134 thousand higher than for FY 1989. FY 1990 payments to the state were \$705 thousand less than FY 1989 payments. The net cash flow for the Colville National Forest for FY 1990 was negative \$2,875,577, \$1,777,292 less than the net cash flow for FY 1989.

## Financial and Economic Report

**Table 3.1-89 Sources and Uses of Funds for Fiscal Year 1989, Colville National Forest (1990 Dollars).**

	Timber	Recreation	Wildlife	Water & Soil	Minerals	Range	Lands	Total
<b>A. REVENUE</b>								
Regular Program	12,374,683	84,718			1,911	41,491	5,312	12,508,115
Reimb./Co-op Work			12,582					12,582
<b>B. OPERATIONS/ MAINTENANCE COSTS</b>	8,146,487	811,757	219,598	78,574	64,772	171,715	620,258	7,911,160
<b>C. ALLOCATION OF CAPITAL IMPROVEMENTS</b>								
Structural Imp		24,178	73,379			78,819		174,375
Nonstructural Imp			147,288	33,413		31,900		212,802
Roads	541,679	37,680						579,359
Trails		298,684						298,684
Buildings & Facilities	15,234	8,787	1,381	1,350	1,890	4,383	1,381	34,368
Other Imp								
<b>TOTAL IMPROVEMENTS</b>	556,913	369,308	222,027	34,764	1,890	113,102	1,381	1,299,368
<b>TOTAL OPER, MAINT, IMP</b>	8,703,401	981,085	441,624	111,338	66,662	284,817	621,619	9,210,528
<b>D. GENERAL ADMINISTRATION CASH FLOW</b>	1,198,561	149,455	69,498	17,018	10,15	43,898	92,794	1,581,174
	4,472,721	(1,045,803)	(511,120)	(128,358)	(74,803)	(287,024)	(708,102)	1,716,414
<b>E. PAYMENT TO STATES NET CASH FLOW</b>	2,781,262	21,180			557	10,372	1,328	2,814,700
	1,991,459	(1,098,983)	(511,120)	(128,358)	(75,480)	(297,398)	(710,430)	(1,098,285)

1. TSPIRS doesn't include the cost of Law Enforcement or Land Management Planning, so it is not included above.
2. Gen Admin is based on a % of non Gen Admin expenditures.
3. 25% fund is based on regular collection.
4. There were collections of \$243 for power. We had no expenditures for power and therefore it is not shown.
5. Payments to states include the portion of Kaniksu N.F. in Washington which is administered by the Idaho Panhandle N.F. It was not possible to allocate these joint payments among the Colville N.F. and the Idaho Panhandle N.F.

**Table 3.1-90 Sources and Uses of Funds for Fiscal Year 1990, Colville National Forest (1990 Dollars).**

	Timber	Recreation	Wildlife	Water & Soil	Minerals	Range	Lands	Total
<b>A. REVENUE</b>								
Regular Program	6,452,812	68,444			115	44,140	6,208	6,571,517
Reimb./Co-op Work			3,533				350	3,883
<b>B. OPERATIONS/ MAINTENANCE COSTS</b>	4,832,567	615,890	255,999	23,264	79,124	181,886	434,710	6,423,240
<b>C. ALLOCATION OF CAPITAL IMPROVEMENTS</b>								
Structural Imp		50,680	195,512	44,239		32,278		322,709
Nonstructural Imp			130,873			10,845		141,718
Roads	349,016	84,827						433,843
Trails		268,802						268,802
Buildings & Facilities	18,810	8,080	1,190	454	623	2,827	278	30,947
Other Imp								
<b>TOTAL IMPROVEMENTS</b>	367,826	410,399	327,575	44,693	623	45,950	1,031	1,198,297
<b>TOTAL OPER, MAINT, IMP</b>	5,200,393	1,026,289	583,574	67,957	79,947	227,836	435,741	7,821,537
<b>D. GENERAL ADMINISTRATION CASH FLOW</b>	1,373,165	145,898	80,487	9,593	11,448	33,324	62,058	1,715,753
	1,879,054	(1,103,543)	(664,041)	(77,350)	(91,512)	(216,820)	(491,593)	(768,005)
<b>E. PAYMENT TO STATES NET CASH FLOW</b>	2,080,107	17,111				11,035	1,551	2,109,804
	(201,053)	(1,120,854)	(664,041)	(77,350)	(91,512)	(227,855)	(493,144)	(2,875,577)

1. TSPIRS doesn't include the cost of Law Enforcement or Land Management Planning, so it is not included above.
2. Gen Admin is based on a % of non Gen Admin expenditures.
3. 25% fund is based on regular collection.
4. Payments to states for FY 1990 is an estimate based on collections and does not include the portion of Kaniksu N.F. in Washington which is administered by the Idaho Panhandle N.F.

Table 3.1a-89 and 3.1a-90 display timber sale revenue and cost information taken from the Colville National Forest's Timber Sale Program Information Reporting System (TSPIRS) for fiscal years 1989 and 1990 (see Table 1 of TSPIRS reports). Certain costs components are calculated differently within the TSPIRS system and are not consistent with costs shown in Tables 3.1-89 and 3.1-90. The main differences are the Pool Allowances in which

TSPIRS allocates some timber sale expenses to years other than the current year. Please see chapter 1 and the Appendices in the TSPIRS reports for a full explanation regarding these costs and their calculations.

**Table 3.1a-89** Statement of Timber Sale Revenues and Expenses, Timber Sale Program Information Report System (TSPIRS), Colville National Forest FY 1989 (1990 Dollars).

Account Description	Timber	Other	Personal	Total
<b>REVENUE</b>				
Timber Sales	10,350,015		31,339	10,381,353
Purch Road Credits Estimate	1,308,180			1,308,180
Associated Charges	651,563		6,624	658,187
Interest and Penalties	26,962			26,962
<b>Total Revenue</b>	<b>12,336,721</b>		<b>37,963</b>	<b>12,374,683</b>
<b>CONTROLLABLE EXPENSES</b>				
Sale Administration Expense	950,994		13,531	964,526
Sale Activity Pool Allow	4,536,286		317,939	4,854,225
Growth Activity Pool Allow	658,802			658,802
Facilities Depreciation	15,234			15,234
Timber Program Gen Admin	1,141,869		56,692	1,198,561
<b>Total Controllable Exp.</b>	<b>7,303,186</b>		<b>388,162</b>	<b>7,691,348</b>
Gain/Loss BFR Pmts to States	4,995,790		(259,355)	4,736,435
Payments to States	2,772,641		8,621	2,781,262
<b>Net Gain/Loss Fr Tmbr Sale</b>	<b>2,223,149</b>		<b>(267,976)</b>	<b>1,955,173</b>

1. Other refers to any timber which was sold for management purposes other than timber management (e.g., recreation site development).
2. Personal refers to timber sold for only personal consumption...not to be resold (e.g., firewood, post, poles, etc.).

## Financial and Economic Report

**Table 3.1a-90** Statement of Timber Sale Revenues and Expenses, Timber Sale Program Information Report System (TSPIRS), Colville National Forest FY 1990 (1990 Dollars).

Account Description	Timber	Other	Personal	Total
<b>REVENUE</b>				
Timber Sales	6,535,933	220	34,336	6,570,489
Purch Road Credits Estimate	1,378,458			1,378,458
Associated Charges	493,108		5,707	498,815
Interest and Penalties	4,850			4,850
<b>Total Revenue</b>	<b>8,412,349</b>	<b>220</b>	<b>40,043</b>	<b>8,452,612</b>
<b>CONTROLLABLE EXPENSES</b>				
Sale Administration Expense	976,662		27,180	1,003,842
Sale Activity Pool Allow	3,462,347		220,609	3,682,956
Growth Activity Pool Allow	457,165			457,165
Facilities Depreciation	18,810			18,810
Timber Program Gen Admin	1,290,912		82,253	1,373,165
<b>Total Controllable Exp.</b>	<b>6,205,896</b>		<b>330,042</b>	<b>6,535,938</b>
Gain/Loss BFR Pmts to States	2,206,453	220	(289,999)	1,916,674
Payments to States	2,080,107			
<b>Net Gain/Loss Fr Tmbr Sale</b>	<b>126,346</b>	<b>220</b>	<b>(289,999)</b>	<b>1,916,674</b>

1. Payments to states for FY 1990 is an estimate based on collection and does not include the portion of Kaniksu N.F. in Washington which is administered by the Idaho Panhandle N.F.
2. Other refers to any timber which was sold for management purposes other than timber management (e.g., recreation site development).
3. Personal refers to timber sold for only personal consumption...not to be resold (e.g., firewood, post, poles, etc.).

### Expenditure and Economic Value Comparison

Table 3.2 compares budget expenses, in constant 1982 and 1990 dollars, for fiscal years 1989 and 1990 with those proposed by the Forest Plan. The intent is to compare the proposed Forest Plan budget with actual funding allocations. Table 3.2 shows that the proposed Forest Plan budget is \$23,853,318 and that the actual funding allocation for fiscal years 1989 and 1990 was \$15,481,480 and \$15,964,728 (1990 dollars)...a shortfall of

\$8,371,838 and \$7,888,590 respectively. This comparison might only be valid if unit or activity costs in the Forest Plan were estimated accurately. If the actual costs of doing business on the Colville National Forest were much different than those assumed by the Forest Plan then it would not be possible to make any strong conclusions regarding Plan implementation based solely on funding levels.

We have not made any comparison between actual and proposed unit or activity costs to date. However, we can generally assume that activity costs have not decreased. It is more likely that

the real costs (costs minus inflation) have probably increased somewhat since 1982. Most of the activity or unit costs associated with the Plan were estimated in 1982. Therefore, it seems reasonable to state that actual funding levels from congress are not sufficient to fully implement the Forest Plan.

During FY 1991 the Forest will begin collecting information regarding actual activity or unit costs and will therefore be able to evaluate the ability to implement the Forest Plan based on actual funding allocations.

**Table 3.2** Comparison of Colville National Forest Expenditures of Forest Plan, actual Fiscal Years 1989 & 1990. Expenditures are summarized by Program Level (1990 Dollars).

Program Level	Forest Plan	Actual FY 89	Actual FY 90
Recreation	1,024,022	939,520	917,067
Wilderness	24,125	12,590	18,114
Wildlife & Fish	1,440,146	445,025	581,943
Range	521,348	281,269	229,163
Timber	11,261,106	6,563,238	7,450,580
Water/Soils/Air	392,408	297,743	74,872
Minerals	221,215	66,662	80,922
Human Resources 1/	---	---	---
Lands	691,177	717,913	532,575
Facilities	4,399,219	2,352,020	2,161,251
Planning	2/	345,325	284,271
Protection	1,572,357	1,337,285	1,428,160
General Administration	2,306,196	2,122,889	2,205,809
<b>Forest Total 1990</b>	<b>23,853,318</b>	<b>15,481,480</b>	<b>15,964,728</b>
<b>Forest Total 1982 \$</b>	<b>17,500,600</b>	<b>11,358,386</b>	<b>11,712,934</b>

1/ Human resources programs have been excluded from this data base because funding is provided through agencies other than U.S.D.A.

2/ Planning expenditures are included in various program level budgets.

## Economic Values

Table 3.3 shows the economic value of outputs for both priced market and priced non-market resources. These values were determined by multiplying resource output levels by the resource unit values. The resource unit values used for economic value estimation reflect willingness-to-pay. Willingness-to-pay valuation techniques are used to estimate true economic value. Actual market clearing prices reflect true willingness-to-pay for resources which are traded in a competitive market (e.g., timber). But, willingness-to-pay values for resources which are not traded in a competitive

market (e.g., recreation, range, etc.) must be determined by alternative methods. In any case, willingness-to-pay reflects the true economic value to the consumer. User fees and range permits do not reflect willingness-to-pay. Therefore, resource statements in tables 3.1-89 and 3.1-90, which reflect the user fees and range permits, reflect an accounting or financial stance and in no way represent true economic value.

The intent of this section of the report is to record changes in the economic value of the various resource outputs. Changes in actual resource output levels and/or the economic resource unit values will affect the total economic value of each resource. Changes in an individual resource's

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total economic value should be evaluated with respect to the following: 1) the factors that caused the change, 2) if the changes represent a cycle or trend, 3) determine the relationships to other resource economic values, 4) determine if changes in economic value affect Forest Plan implementation, and 5) determine if changes in resource economic values signify important changes in societal values that should possibly be reflected in a change in the Forest Plan.

Two different sets of resource unit values were used in this analysis. Estimates of economic value of outputs stated in the Forest Plan EIS used 1985 Resource Program & Assessment (RPA) unit resource values. Estimates of economic value of outputs actually produced in fiscal years 1989 and 1990 used the current 1990 RPA unit resource values. The 1990 RPA values were very different than those used in 1985 because of differences in the methods used to determine the values themselves. Because of these differences, the

1985 and 1990 RPA resource unit values are not comparable.

A new Regional system for sampling and recording recreational use was implemented during fiscal year 1990. Therefore, fiscal year 1990 recreational outputs are not comparable to recreational outputs reported for fiscal year 1989 and the Forest Plan (see table 2.2). All other outputs, timber, range AUM and minerals are comparable. Therefore, the widely varying economic values shown in table 3.3 are a result of different resource unit values and/or the new system for sampling and recording recreational use in FY 1990.

Evaluation of the causes and effects of changes in resource economic values is not appropriate at this time. An appropriate time for evaluation would require at least 3-5 years of Forest Plan implementation and that the new system for sampling and recording recreation use be fully operational.

**Table 3.3 Estimated Economic Value of Outputs for Priced Resources (1990 dollars).**

Resource	Total Economic Value		
	Forest Plan	FY 1989	FY 1990
Timber			
Offered For Sale	16,799,268	na	na
Harvested	na	22,093,564	15,217,164
Fuelwood	756,329	805,218	792,637
Developed Recreation	4,666,503	3,316,884	3,169,222
Non-Wilderness Dispersed Recreation 1/			
Roaded	11,907,111	27,453,790	9,898,334
Unroaded	3,108,391	6,810,787	2,376,284
Wilderness Use	57,246	129,533	61,473
Minerals	5,035,984	13,819	4,355,796
Range-Permitted AUMs	525,709	173,701	172,008
<b>TOTAL</b>	<b>\$42,856,540</b>	<b>\$60,797,307</b>	<b>\$36,042,918</b>

na...not applicable

NOTE: A word of caution is advised with respect to evaluating recreation related values...amounts of use and/or values for recreation activities are not comparable in either year due to changes in methods of estimation.

## SOCIOECONOMIC REPORT

This section describes some of the social and economic characteristics of the area most influenced by the Colville National Forest, specifically

Ferry, Stevens, and Pend Oreille counties. Spokane and King county and Washington state data was included for comparison purposes. There are two parts to this section which include a description of various socioeconomic indicators and an estimate of the regional impacts to employment and income due to Forest Plan implementation.

### Socioeconomic Characteristics

Tables 3.4, 3.5 and 3.6 displays actual population, labor force, total employment, nonagricultural covered employment, unemployment, housing and income changes over time. Characteristics have been provided for Ferry, Stevens and Pend Oreille counties, the tri-county area, which are the counties most influenced by the Colville National Forest. Data is also provide for Spokane and King county and for Washington state for comparison purposes.

Tracking these various indicators on an annual basis will be useful for identifying trends and cycles that occur over time. Movements in these indicators can then be evaluated with respect to Forest management activities. It will not be possible to ascertain the exact causes of any movement in indicator levels without exclusive research. However, with the use of the Forest Service regional economic impact analysis model, IMPLAN, it may be possible to make some conclusions or assumptions regarding the changes in employment and income which are related to Forest Service activities. Collecting this information, annually, over a five to ten year period will be useful to the Forest Service in validating results obtained from the IMPLAN model.

The data shown for 1985 reflects similar conditions reported during preparation of the Colville Environmental Impact Statement. The socioeconomic data reported in the EIS is for 1985. The most current up-to-date information was provided wherever possible.

Table 3.4 displays, for the tri-county area, Ferry County has experienced the highest growth in population, labor force, and employment since 1985 while Pend Oreille County has experience the least change. Only population growth is below the state average for that time period for Ferry County. The recent increase in mining activity in Ferry County (see table 3.6) may be responsible for these increases. Table 3.6 shows that mining activity increased more than any other industry in Ferry County from 1988 to 1989. Current up-to-date industry employment data, if available, would show even greater growth in mining. According to the Zone Minerals Specialist, Echo Bay Mining has increase their mining capacity substantially

during 1990. A higher percentage of the new population growth consisting of people who are at an employable age might explain why labor force grew faster than population.

Pend Oreille County experienced very high labor force and employment growth during 1988 and 1989. However, during 1990, labor force and employment fell to pre-1985 levels while the population continued to rise. Construction of the new newsprint facility in Pend Oreille County may have contributed to this rise and fall in employment. Table 3.6 shows that construction rose by 858 in Pend Oreille County between 1988 and 1989.

Unemployment in Stevens County fell every year since 1985 to 1988. Because the labor force has been rising faster than employment from 1988 to 1990, the unemployment rate for Stevens County has increased. The unemployment situation in the tri-county area generally remains quite high when compared to the Spokane County or the state of Washington.

Table 3.4 provides median household (the point at which half of all households have more income and half have less) and per capita (average) income information. Median income data provides insight as to how the total income is more or less distributed. Per capita income is just an average figure that is only useful toward evaluating the relationship of total income and total population. Used together, median and per capita income can provide information as to how the total income in a county is distributed. If per capita income increases faster than the median income over time, then the income distribution for the county is getting worse...to use the phrase "the rich are getting richer".

Ferry, Pend Oreille and Stevens counties are among the poorest counties in the state. In 1988, the three counties were ranked the poorest in the state with respect to per capita income (Washington State Employment Security 1989). With respect to median household income, Pend Oreille was the poorest, Ferry tied with Okanogan for second to poorest, and Stevens tied with Yakima County for seventh to poorest out of 39 counties in the state of Washington (Washington State Office of Financial Management 1990).

Per capita income has increased faster than median household income in all three counties in the tri-county area from 1985 to 1987. The increase in per capita income relative to median household income is higher in the tri-county area when compared to state increases. That is, the income distribution in Ferry, Pend Oreille and Stevens counties is getting worse at a faster pace than it is for Washington state as a whole. The healthiest of the three counties appears to be Stevens County where per capita increases are lower relative to median household increases.

Table 3.5 provides information regarding the number of existing housing units and the number of privately owned housing units authorized in permit-issuing places. Within the tri-county area, Ferry County had the greatest increase in housing units from 1985 to 1990. Pend Oreille had the second greatest increase. And, Stevens County had the smallest increase in number of housing

units. Of the years shown, Ferry County's peak number of building permits occurred in 1989. The peak number of building permits for Pend Oreille, Stevens and Spokane counties occurred in 1985. This information will become more useful as more data is collected. For example, it will be interesting to see if housing activity consistently increases/decreases with the volume of timber harvested for a given year. One would expect this to be the case.

In summary, since 1985, Ferry County appears to have made the greatest percentage gains in employment and housing. Pend Oreille County has experience the least economic gains. And, Stevens County seems to be the healthiest overall with the lowest unemployment rate, 1989 housing construction activity is up from previous years, and experiences a higher level of income that is more evenly distributed.

Table 3.4 Socioeconomic and Demographic Characteristics for Selected Counties and State.

COUNTY	Ferry		Pend Oreille		Stevens		Spokane		King		State	
	Amount	% Change	Amount	% Change	Amount	% Change	Amount	% Change	Amount	% Change	Amount	% Change
<b>Population 1/</b>												
1985	8,000		8,900		30,100		354,300		1,348,400		4,384,100	
1987	8,000	0.0	8,900	0.0	30,200	0.3	358,900	0.5	1,384,600	2.8	4,481,100	2.2
1988	8,100	1.7	8,800	-1.1	30,200	0.0	354,100	-0.5	1,413,900	2.1	4,586,000	1.9
1989	8,100	0.0	8,900	1.1	30,500	1.0	358,000	1.1	1,448,000	2.4	4,680,700	2.1
1990**	8,400	4.9	9,000	1.1	30,600	0.3	367,200	2.6	1,482,600	2.5	4,798,100	2.6
<b>Labor Force 2/</b>												
1985	2,570		3,870		11,110		198,000		722,800		2,091,000	
1987	2,950	3.1	3,090	-15.8	11,420	2.8	189,700	4.2	787,900	9.0	2,256,000	7.8
1988	2,870	8.3	4,230	36.9	11,710	2.5	184,800	-0.5	815,500	3.5	2,315,000	2.7
1989	3,188	10.4	4,441	5.0	12,195	4.1	189,925	3.1	887,250	8.3	2,434,342	5.2
1990	3,370	6.4	3,368	-24.2	12,519	2.7	172,783	1.7	902,525	4.1	2,536,300	4.1
<b>Employment 2/</b>												
1985	2,210		3,080		9,580		148,400		678,900		1,921,000	
1987	2,360	6.8	2,550	-17.2	10,100	5.4	153,100	4.6	741,900	9.8	2,065,000	8.5
1988	2,540	7.6	3,810	48.4	10,700	5.9	154,800	1.0	778,900	4.7	2,173,000	4.2
1989	2,799	10.2	3,980	4.7	11,085	3.8	159,150	2.9	828,683	6.7	2,286,425	5.2
1990	3,010	7.5	2,881	-28.3	11,248	1.5	182,338	2.0	869,038	4.9	2,398,713	4.8
<b>Unemployment Rate 2/</b>												
1985	14.0		18.1		13.8		7.9		8.4		8.1	
1987	10.9	-22.1	17.5	8.7	11.6	-15.9	7.8	-3.8	5.8	-6.4	7.8	-8.2
1988	11.5	5.5	9.9	-43.4	8.8	-25.9	8.2	-18.4	4.7	-19.0	6.2	-18.4
1989	11.7	1.7	10.5	8.1	8.1	5.8	6.3	1.6	4.5	-4.3	6.1	-1.8
1990	10.8	-9.4	15.0	42.9	10.2	12.1	6.0	-4.8	3.7	-17.8	5.5	-9.8
<b>Income (1990 Dollars)</b>												
<b>Median Family 3/</b>												
1985	13,919		12,364		15,557		17,904		23,990		21,043	
1988	15,108	8.5	14,185	14.7	16,787	7.9	18,885	7.3	25,747	7.4	22,538	7.1
1987	15,821	4.7	15,118	8.6	17,579	4.7	20,218	7.0	27,990	8.5	24,259	7.8
1988	16,898	6.8	16,213	7.2	18,182	8.1	21,922	8.4	30,417	8.8	26,307	8.4
<b>Per Capita 4/</b>												
1985	7,020		7,452		8,038		10,065		14,236		11,523	
1988	7,715	9.9	8,105	8.8	8,503	5.8	10,822	7.5	15,580	9.4	12,501	8.5
1987	8,348	10.8	8,695	7.3	9,421	10.8	12,003	10.9	17,149	10.1	13,748	10.0

Source: 1/ 1985 & 1990—Washington State Office of Financial Management, "Population Trends for Washington State"

1987-1989—Washington State Employment Security Department, "Annual Demographic Information July 88 & 89"

\*\*State Estimates as of April 1, 1990

2/ Employment includes agricultural and nonagricultural. Source is monthly Washington State Employment Security Labor Market publications.

Note: All employment related data is from revised reports unless otherwise noted.

3/ Washington State Office of Financial Management, "Population Trends for Washington State."

4/ Washington State Employment Security Office, "Annual Demographic Information July 1988."

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Table 3.5 Housing Unit Information: Existing and New Permits

Estimates of Existing Housing Units

County	1985	1988	1989	Apr-90
Ferry	2,661	2,806	2,904	2,978
Pend Oreille	5,104	5,342	5,412	5,528
Stevens	13,777	14,191	14,338	14,421
Spokane	145,388	150,796	152,157	153,993
King	578,906	621,554	638,307	658,259
State Total	1,850,778	1,967,119	2,011,903	2,066,578

New Privately Owned Housing Units Authorized in Permit-Issuing Places

	1985	1987	1988	1989	1990 1/
Ferry	32	16	38	50	na
Pend Oreille	58	31	26	39	na
Stevens	88	81	63	80	na
Spokane	1,906	1,210	1,091	1,610	na
King	14,347	17,888	18,709	18,999	na
State Total	35,474	38,341	45,055	48,210	47,579
US Total*	1,741,000	1,631,000	1,491,000	1,386,000	1,225,000

SOURCE:

-Number of Housing Units provided by Washington State Office Financial Management, "Population Trends for Washington State", publications 1984-1990.

-Housing permit information...U.S. Department of Commerce, Bureau of the Census.

\*Current Construction Reports, Housing Units Authorized by Building Permits\*

-Housing starts for the nation...Washington State Office of Financial Management, Office of the Forecast Council, "Economic and Revenue Forecast"

NOTE: The data for the U.S. is in terms of Housing Starts.

Table 3.6 Total Covered Nonagricultural Employment by Industry and County.

INDUSTRY COUNTY	Agriculture Forestry Fishing	Mining	Const.	Manufact.	Transport & Public Utilities	Trade	Finance Insur. & Real Estate	Services	Gov't	Other	Total
Ferry											
1984 *	**	**	23	258	16	172	15	114	419	108	1,123
1988	**	153	41	287	14	220	15	226	489	18	1,483
1989	**	253	25	283	16	287	15	251	533	39	1,882
Pend Oreille											
1984 *	15	na	50	938	25	220	30	214	887	17	2,174
1988	23	na	73	257	41	284	37	249	724	15	1,863
1989	14	na	931	363	60	283	35	214	724	20	2,644
Stevens											
1984 *	48	184	210	1,979	181	1,241	152	1,194	1,588	na	6,767
1988	22	118	212	2,178	241	1,363	188	1,325	1,878	na	7,505
1989	45	108	242	2,132	291	1,391	183	1,343	1,932	na	7,888
Spokane											
1984 *	472	248	8,311	17,484	5,784	35,784	7,571	29,783	20,937	na	124,311
1988	803	357	5,808	18,778	6,402	38,584	7,797	34,880	22,809	na	136,216
1989	752	372	8,283	18,803	6,899	39,134	7,848	38,823	23,354	0	139,899
King											
1984 *	na	na	na	na	na	na	na	na	na	na	0
1988	7,321	423	41,888	154,500	53,127	202,255	83,983	193,345	107,833	na	824,875
1989	7,906	338	45,288	186,223	56,937	215,456	86,320	210,559	111,025	na	880,054

\* Information provided in Environmental Impact Statement

\*\* Not reported to avoid disclosure of information about single (or a few) firms.

na...not available

SOURCE:

Washington State Employment Security Department, "Employment and Payrolls in Washington State by Count and Industry" from Annual Averages Reports for 1985, 1988 & 1989. Covered employment is recorded for those firms etc. whose employees are covered by the Washington Employment Security Act.

## Regional Economic Analysis

A regional economic analysis was performed in preparation of the Forest Plan. The results of the analysis estimated how the economy would be affected by implementation of the Forest Plan and subsequent changes in BASE levels of production of the various forest commodities. The BASE scenario was defined as the 10 year average, 1977-1986, of the various outputs listed in table 3.7. The EIS states that implementation of the Forest Plan will cause the BASE level of employment and income, within Ferry, Pend Oreille and Stevens counties to increase by 671 jobs and \$9.7 million (1982 dollars).

The estimated changes in employment and income that would occur from production of individual commodities by the Colville National Forest during fiscal years 1989 and 1990 are shown in table 3.7. Table 3.7 also present a comparison of these fiscal year estimates of employment and income with those which were predicted to occur due to Forest Plan implementation.

Table 3.7 shows that Forest Plan implementation would result in an increase of 598 jobs and \$9 million dollars. This is different than what was stated in the Forest Plan EIS. The values stated in the EIS may be in error due to double counting of wildlife related affects. It is possible that the effects due to wildlife related recreational use were double counted in the EIS...once in the wildlife use estimates themselves and again under motorized and nonmotorized recreation. For example, the impacts from hunting may be included under motorized recreational use as well as the category call hunting. Table 3.7 reflects a regional impact analysis which does not double count wildlife related effects on jobs and income. The differences between results of the impact analysis for this report and the EIS analysis will be reconciled during the next year.

The results of Forest Plan implementation during fiscal year 1989 produced an estimated increase in employment and income of 734 jobs and 10.7 million dollars (table 3.7). The change in timber outputs produced the single greatest estimated impact to the economy. Forest Plan timber harvest implementation was predicted to produce an increase of 480 jobs and \$7.7 million (1982 dollars)

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of income. The greatest differences between estimated actual changes and estimated Forest Plan related changes in the economy occurred with respect to changes in recreation/wildlife oriented commodities. Hunting, fishing, motorized and non-motorized recreation related jobs and income varied the most with planned versus actual estimates.

Table 3.7 shows that the estimated effects of implementation during FY 1990 are decreases in employment and income of 73 jobs and 226 thousand dollars. The estimated impacts to jobs and income for fiscal years 1990 and beyond will not be comparable to any previous impact estimates, specifically those for fiscal year 1989 and the Forest Plan. A new regional system for sampling and recording recreational use was introduced in 1990. The system is not yet 100 percent operational and also produced estimates of recreation use which are known to be understated. Therefore, the increases to employment and income are also understated.

The estimated changes in employment and income due to FY 1990 timber and grazing outputs are the only impacts that are comparable to previous impact estimates. The slight reduction in grazing AUMs (see table 2.2) in FY 1990 produced insignificant estimated impacts to the economy. However, the drop in harvested timber volume in FY 1990, 88.9 MMBF, produced an estimated increase of 116 jobs and \$1.9 million of income. These less than predicted increases represent a shortfall of 364 jobs and \$5.8 million of income (1982 dollars). The drop in timber harvests in FY 1990 is most likely a result of the downturn in the demand for lumber. The September 1990 issue of the "Economic and Revenue Forecast" published by the Washington State Office of the Forecast Council in Olympia stated a decrease of 631 state-wide housing starts in 1990 compared to 1989. Their estimate of nation-wide housing starts for the same time period was 161,000 less.

**Table 3.7** Estimated Employment and Income Changes by Commodity. Comparison of Changes from BASE to the Forest Plan and from BASE to Each Fiscal Year (1982 dollars).

OUTPUT	Changes In Jobs			Changes In Income		
	Forest Plan	FY 1989	FY 1990	Forest Plan	FY 1989	FY 1990
Fishing (MWFUDs)	5	10	7	49,882	103,547	78,327
Hunting (MWFUDs)	12	24	10	141,332	291,304	115,770
Nonconsumptive Wildlife (MWFUDs)	36	73	-68	397,812	816,721	-759,585
Camping (MRVDs)	2	1	1	21,243	17,845	11,095
Picnicing (MRVDs)	0	0	0	4,189	3,521	2,196
Motorized Rec (MRVDs)	60	55	-129	670,476	615,582	-1,434,682
Nonmotorized (MRVDs)	3	30	-10	30,788	282,011	-97,144
Timber (MMBF)	480	539	116	7,669,920	8,611,840	1,858,610
Grazing (MAUMs)	0	0	0	0	420	-1,016
<b>TOTAL</b>	<b>598</b>	<b>734</b>	<b>-73</b>	<b>8,985,643</b>	<b>10,742,792</b>	<b>-226,430</b>

1. The base scenario is represented by the 10 year average, 1977-1986, of the various outputs listed in table 3.5. These estimates of changes in the economy were derived by using the IMPLAN model.

2. Recreation use for FY 1990 was estimated using new sampling and recording system. This produced RVD and WFUD counts, and subsequent employment and income impacts, which can not be compared to previous years.

## 4. FOREST PLAN MONITORING

The Forest Plan for the Colville National Forest became effective February 13, 1989. Implementation of the Forest Plan occurs through identification, selection, scheduling, and execution of management activities to meet management direction provided in the Forest Plan.

An important part of implementing the Forest Plan is monitoring. Monitoring consists of gathering information about various management activities, costs, outputs and effects of management. That information provides a basis for evaluating Forest Plan implementation and achievement of Forest Plan goals and objectives. The information and data collected during the monitoring process is evaluated to determine if the procedures used to implement the Forest Plan should be changed or if revisions or amendments to the Forest Plan itself are necessary:

The regulations for implementing the National Forest Management Act describe the purposes for periodic evaluation of a forest plan:

- to determine if conditions or demands in the area covered by the Forest Plan have changed significantly enough to require any revision to the Forest Plan {36 CFR 219.10(g)},
- to determine if budgets have significantly changed the long-term relationship between levels of multiple-use goods and services enough to create a need for a "significant amendment" {36 CFR 219.10(e)},
- to determine how well the stated objectives of the Forest Plan are being met {36 CFR 219.12(k)},
- to determine how closely forestwide management standards in chapter IV of the Forest Plan have been followed {36 CFR 219.12(k)}, and
- to determine how the Forest is satisfying the requirements for monitoring and evaluation {36 CFR 219.12(k)}.

This chapter summarizes the results of monitoring and evaluation conducted during fiscal years 1989 and 1990. Although the results of monitoring and evaluation for FY 1989 are for a full fiscal year, less than a full year of Forest Plan implementation is represented. The fiscal year began on the first of October; Forest Plan implementation began on February 13, 1989. The monitoring items summarized are displayed in table 5.2, pages 5-11 to 16 of the Forest Plan. In 1990, the Forest developed a detailed *Forest Plan Monitoring Guide* consisting of monitoring instructions and a monitoring schedule. Not all monitoring items identified in the Forest Plan are scheduled to be monitored every year. This chapter addresses only those items monitored during FY 1989 and 1990.

### Monitoring Item 1 Project Compliance With NEPA

#### Forestwide Goal

The analysis and documentation developed for all projects will meet the requirements of the National Environmental Policy Act.

#### Purpose of Monitoring

To ensure the conditions of NEPA are being met.

#### Results and Evaluation

##### FY 1989

All Forest Supervisor authority project environmental analysis documents were reviewed for NEPA compliance and found to be adequate prior to approval. Selected projects were reviewed in the field (including 15 timber sales planned before the Forest Plan was signed) for NEPA compliance. No problems were identified.

##### FY 1990

All Forest Supervisor authority NEPA documents were reviewed by Forest staff officers and the Forest environmental coordinator. Twelve environ-

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## Forest Plan Monitoring

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mental assessments and one draft environmental impact statement were reviewed.

In addition to the office reviews mentioned above, the Forest Monitoring Team, a team composed of the Forest Leadership Team and resource specialists, conducted NEPA monitoring field reviews of four projects. The objective of that monitoring effort was to determine if the management direction and mitigation measures described in the NEPA documents were carried out and to determine if information presented in the documents accurately reflected the situation on the ground.

The application of the management direction and mitigation measures described in the NEPA documents was determined to be at an acceptable level. One aspect of the process that appeared to merit additional attention was explicitly defining mitigation measures in the NEPA documents. Feedback to district staff from the monitoring field reviews stressed the need to clearly define best management practices in the NEPA document, as to their location, amount, and method.

### Forestwide Summary

The NEPA document review and revision process resulted in all documents meeting NEPA requirements.

A process to help project planners clearly define mitigation measures will be addressed in an upcoming forestwide NEPA workshop. A catalog of best management practices will be developed to assist that process. In addition, a format for reporting the results of NEPA monitoring efforts will be developed to aid in making the reviews consistent.

## Monitoring Item 2 Forest Plan Standards and Guidelines

### Forestwide Goal

Forest Plan standards and guidelines are implemented where appropriate and result in the desired future condition described in the Forest Plan.

### Purpose of Monitoring

To determine if the Forest Plan standards and guidelines are implemented at the project level and meet the objective of protecting the resource values identified in the Forest Plan.

### Results and Evaluation

#### FY 1989

Monitoring indicates no unacceptable variations from the standards and guidelines.

#### FY 1990

Monitoring the application of Forest Plan standards and guidelines was accomplished through the review of project NEPA documents and field review of project implementation. All Forest Supervisor authority NEPA documents are reviewed by the Forest staff officers to determine if the appropriate standards and guidelines were being applied in the NEPA document.

Implementation monitoring of standards and guidelines on ranger districts occurs through the district NEPA document review process. The majority of the district NEPA document review process is conducted during the interdisciplinary process used in project analysis and documentation. Some district reviews were completed by district staff or by selected team members who used a review process that is similar to the Forest review process. Results were similar to those obtained during the Forest review.

A field review of Forest Plan standards and guidelines was accomplished for some resource areas where the project or activity is administered or inspected for compliance with specific standards and guidelines. An example of that monitoring process is monitoring forage utilization (Monitoring Item 18) which is specifically monitored against forestwide range standard and guideline #5.

One particular ranger district seized the opportunity to conduct their implementation monitoring by using the project administration approach mentioned above. Some examples of reported corrective actions taken include the following: protection of riparian areas, protection of certain wildlife species habitat, fuels treatment changes, and road closures.

Another approach to field review of Forest Plan standards and guidelines was used to monitor projects and areas where many standards apply over several resources. This monitoring was done through a series of monitoring trips by either a ranger district management group or the Forest Monitoring Team.

The Forest Monitoring Team, a team composed of the Forest Leadership Team and resource specialists, reviewed projects in the field during September and October. A total of 14 projects or areas were involved in the review. The activities or monitoring items that were reviewed with respect to application of standards and guidelines included the following:

- increasing the number of snags on timber sales that currently have less than the desirable number of snags,
- managing activities in developed recreation areas (Management Area 3) such as range use, ORV use, and riparian use by livestock and humans,
- applying the NFMA regulations 40 acre maximum clearcut size limit with exceptions being properly scrutinized,
- closing roads to complete mitigation on past activities;
- managing activities in old-growth areas (Management Area 1) such as range use and pothole creation,
- managing for big game cover/forage ratios,
- managing for big game thermal cover,
- applying silvicultural prescriptions,
- planting browse,
- applying visual management objectives,
- managing cultural resources,
- dispersing openings,
- developing habitat structures,
- classifying streams,
- fencing riparian areas,
- managing dispersed recreation sites,
- marking trees,
- preparing sites for seedling establishment,
- mapping suitability,
- managing range allotments,
- utilizing browse by livestock, and
- managing for grizzly bear seclusion.

#### Forestwide Summary

These field reviews established that, in general, Forest Plan standards and guidelines were being properly applied in project development and implementation. The areas identified where improvement is needed in application of Forest Plan standards and guidelines include the following:

- improving contract administration on snag creation contracts,
- applying silvicultural prescriptions,
- developing riparian buffers,
- specifying the best management practices that should be implemented in project NEPA documents,
- implementing Management Area 7 objectives to the fullest,
- managing livestock, plus managing domestic livestock/wildlife competition,
- managing visual impacts on dispersed recreation sites, and
- minimizing and/or repairing ORV trail damage.

On the whole, the current document review process used on the Forest is effective in determining that project NEPA documents meet Forest Plan direction for standards and guidelines.

One aspect of project planning that should be refined is the designation of specific best management practices for individual projects in the project plan.

Emphasis in future monitoring efforts should be directed at evaluating projects under the approval authority of both the Forest Supervisor and district rangers. The degree of application of appropriate standards and guidelines will become more evident in future years as more projects are completed under the direction of the Forest Plan.

District monitoring should emphasize monitoring through regular administration and management duties. That will require an increased adherence to effective documentation of inspections and management reviews.

### **Monitoring Item 3 Recreation User Experience and Physical Setting**

#### **Forestwide Goal**

To ensure a spectrum of dispersed and developed recreation opportunities are provided on the Forest, as described in the Forest Plan management area descriptions.

#### **Purpose of Monitoring**

To determine if the Forest is meeting recreation opportunity spectrum guidelines regarding site conditions and user satisfaction.

#### **Results and Evaluation**

##### **FY 1989**

All spot monitoring and the RIM report indicate this monitoring item is within variability limits. A RIM report will be prepared annually. No forestwide condition or user satisfaction surveys were completed in 1989.

##### **FY 1990**

All specific site monitoring and RIM reports indicate this monitoring item is within variability limits. The new Region 6 RIM reporting system was used on the Forest in FY 1990. The forestwide random sampling survey method (visitor use counts) was conducted for the first time in FY 1990. The forestwide objective of bringing existing developed recreation sites up to standard is not being accomplished. Much of that can be attributed to lack of funding; however, more effort appears to be focused on new recreation site development than on existing site rehabilitation.

#### **Forestwide Summary**

All monitoring results indicate this monitoring item is within variability limits.

### **Monitoring Item 4 Recreation Trail Use**

#### **Forestwide Goal**

To provide for a spectrum of recreational experiences and trail development within each ROS class.

#### **Purpose of Monitoring**

To determine if the Forest Plan standards and guidelines are being met and to assess the effects of trail use.

#### **Results and Evaluation**

##### **FY 1989**

Monitoring determined that actual trail use was within the ROS class criteria.

##### **FY 1990**

Monitoring efforts included visual inspections and determined that actual trail use was within the ROS class criteria.

#### **Forestwide Summary**

Monitoring results indicate trail use is within the ROS class criteria.

### **Monitoring Item 5 Semiprimitive Undeveloped Recreation Setting**

#### **Forestwide Goal**

To manage these areas to protect the existing unroaded character and provide opportunities for dispersed, nonmotorized and motorized recreation experiences.

#### **Purpose of Monitoring**

To ensure the desired physical, social, and managerial setting for each ROS class is achieved and that these areas remain in an unroaded condition.

#### **Results and Evaluation**

##### **FY 1989**

Monitoring results indicate the ROS class criteria were being met. Reliability of monitoring data was considered to be low and will be improved in the future.

##### **FY 1990**

Observations completed for this monitoring item indicate the ROS class criteria were met.

### **Forestwide Summary**

Monitoring results indicate the ROS class criteria were met. Sampling needs to be completed with improved accuracy, over the whole Forest, to fully meet the intent of this monitoring item.

## **Monitoring Item 6 Effects of Off Road Vehicle Use**

### **Forestwide Goal**

To ensure off road vehicles are used on the Forest in an appropriate manner, compatible with other forest uses, and as prescribed in management area objectives.

### **Purpose of Monitoring**

To determine if Forest Plan standards and guidelines are being met and to assess the effects of ORV use.

### **Results and Evaluation**

#### **FY 1989**

No monitoring of this item was conducted in FY 1989.

#### **FY 1990**

Limited monitoring of this item was accomplished in FY 1990. Two areas were identified on Sullivan Lake Ranger District had experienced some resource impacts. These areas provided the access to Browns Lake and the West Branch campground.

### **Forestwide Summary**

Limited monitoring results indicate that some resource impacts have occurred from ORV use on the forest.

## **Monitoring Item 7 Visual Quality Objectives**

### **Forestwide Goal**

To maintain or enhance scenic qualities on the Forest, with emphasis on scenic viewsheds and foreground and middleground areas seen from sensitive view areas as prescribed by the Forest Plan.

### **Purpose of Monitoring**

To ensure the Forest Plan visual quality objectives are being met.

### **Results and Evaluation**

#### **FY 1989**

Monitoring results show that visual quality objectives were met for current timber sales which were planned prior to implementation of the Forest Plan. Future activities planned and carried out under the Forest Plan will be sampled to meet the 25% sample criteria.

#### **FY 1990**

Visual observations on current timber sales planned prior to implementation of the Forest Plan determined that in general, visual quality objectives were being met. However, visual quality objectives in Management Areas 3, 5, and 6 were not being applied consistently over the Forest and consequently, some opportunities for managing the visual resource within those management areas have been foregone.

### **Forestwide Summary**

Monitoring results indicate that in general visual quality objectives were being met.

The forestwide visual quality objective map is yet to be completed and is needed for use in project level timber sale planning.

Definitions for modification and maximum modification visual quality objectives (for Management Areas 7 and 8) need more clarification; those categories do have visual criteria that must be met.

## **Monitoring Item 8 Protection of Wilderness Resource**

### **Forestwide Goal**

To preserve the wilderness characteristics of the Salmo-Priest wilderness in conformance with existing legislation.

### **Purpose of Monitoring**

To ensure the wilderness is being protected or enhanced.

## Results and Evaluation

### FY 1989

The 20 person and stock unit (maximum group size) limit within the wilderness was exceeded at least once. All other criteria were met.

### FY 1990

A field review of the wilderness conducted by the Forest Supervisor, Sullivan Lake Ranger, Lands Staff Officer, the Forest landscape architect, and district staff, included a number of the campsites within the wilderness. The condition of those campsites was considered to meet the objectives of wilderness management. More time was considered necessary to complete the wilderness implementation schedule and to monitor sites and corridors.

### Forestwide Summary

Monitoring results indicate that overall wilderness management objectives are being met.

## Monitoring Item 9 Potential Wild and Scenic Rivers

### Forestwide Goal

To protect the outstandingly remarkable values of the Kettle River that contribute to its eligibility as a potential Wild and Scenic River.

### Purpose of Monitoring

To determine if the Forest Plan standards and guidelines for protection the Kettle River are being met.

### Results and Evaluation

#### FY 1989

No monitoring of this item was conducted in FY 1989.

#### FY 1990

No management activities were planned during FY 1990 within the Kettle River corridor. A settlement agreement between the Forest and American Rivers, Inc. was made in October 1989 regarding the management of national forest system lands along the Kettle River. Forest Plan Amendment #1 was signed on November 30, 1990 as a result of that settlement agreement. Refer to chapter 5

for additional information about the provisions of Forest Plan Amendment #1.

## Monitoring Item 10 Deer and Elk Winter Range

### Forestwide Goal

To manage habitat to meet big game management objectives as described in the Forest Plan standards and guidelines for wildlife, as well as the Forest Plan desired future condition for Management Areas 6 and 8 and the specific standards and guidelines for those management areas.

### Purpose of Monitoring

To determine if cover objectives in these areas area being met and if open road densities are below the prescribed levels.

### Results and Evaluation

#### FY 1989

Some monitoring of this item was done; insufficient information was collected to allow evaluation of the data. A concern was raised regarding how cover-forage ratios were to be determined in big game winter range management areas (Management Areas 6 and 8). A work group has been formed to study the issue and come up with a forestwide process to guide cover-forage ratio determinations in those management areas.

#### FY 1990

Monitoring of big game winter range was completed by reviewing two active timber sales plus the layout of three other timber sale units. Colville Ranger District wildlife biologists assessed the layout of two sales and one active sale and found that the Forest Plan objectives for winter range had been met, specifically, all cover units maintained were at least 300 feet across, cutting units were less than 600 feet across, there was more than 50% cover in Management Areas 6 and 8 in the sale areas, no new system roads were to be built, and all temporary roads were to be closed after the harvest.

The Forest Monitoring Team, composed of the Forest Leadership Team and resource specialists, conducted field surveys on each ranger district. A

harvest unit in winter range in the East Hill Timber Sale on Kettle Falls Ranger District was reviewed and found to provide good examples of best management practices for the area, though cover in the area was marginal. This conclusion was made because there was adequate marginal cover surrounding the unit and the proposed regeneration treatment is expected to improve the unit's existing thermal cover capability.

The Scatter Timber Sale on the Republic Ranger District was reevaluated by the district biologist after the Forest Plan was implemented. In response to the reevaluation, units were deleted and adjusted to maintain the cover-forage ratio required by the Management Area prescription in the Forest Plan.

#### **Forestwide Summary**

Monitoring results indicate that Forest Plan big game winter range management standards and guidelines are being met.

### **Monitoring Item 11 Primary Cavity Excavators**

#### **Forestwide Goal**

To maintain standing dead and defective trees and dead and down trees for habitat components as provided in the Forest Plan.

#### **Purpose of Monitoring**

To determine if snags or defective trees are being maintained during project implementation in compliance with the Forest Plan.

#### **Results and Evaluation**

##### **FY 1989**

Some monitoring of this item was done; insufficient information was collected to allow evaluation of the data.

##### **FY 1990**

Ranger district biologists and resource crews monitored 1,965 acres in 85 harvested units for snag habitat. Sixty of these units, 1,295 acres, were found to be in compliance with Forest Plan standards and guidelines; 25 units, 670 acres,

were not in compliance. Analysis indicates that some of those units not meeting the standard are within sales that were designed and sold prior to implementation of the Forest Plan.

#### **Forestwide Summary**

Monitoring results indicate that 70 percent of the units sampled met Forest Plan standards and guidelines for primary cavity excavators.

### **Monitoring Item 12 Old Growth Dependent Species**

#### **Forestwide Goal**

To ensure essential habitat is being provided for wildlife species that require old growth habitat components and the diversity of such wildlife habitats and plant communities is maintained.

#### **Purpose of Monitoring**

To determine if old growth habitat is being managed in sufficient quantity and quality to maintain viable populations for old growth dependent species and to meet management objectives for the barred owl management indicator species.

#### **Results and Evaluation**

##### **FY 1989**

Some monitoring of this item was done; insufficient information was collected to allow evaluation of the data.

##### **FY 1990**

Field reviews were conducted for condition of marten and pileated woodpecker habitat units and Management Area 1 on 42 areas, totaling 16,920 acres. Office reviews were conducted on 126 units, totaling 56,902 acres. Units were adjusted to provide for the most suitable habitat in the prescribed distribution.

Barred and spotted owl calling transects were conducted in 11 locations within Management Areas 1 and 4, covering approximately 8,000 acres. Barred owl responses were received from five areas; no nests were located. Two reports of spotted owls were investigated, but none were found.

**Forestwide Summary**

Monitoring results indicate that the sampled units, as adjusted, met the Forest Plan objective to provide the most suitable habitat in the prescribed distribution.

**Monitoring Item 13  
Management Indicator Species**

**Forestwide Goal**

To manage habitat in compliance with the Forest Plan for management indicator species which include the following: pileated woodpecker, northern three-toed woodpecker, Franklin's grouse, blue grouse, raptors and great blue heron, beaver, furbearers, northern bog lemming, and marten.

**Purpose of Monitoring**

To monitor the amount of management indicator species habitat and to evaluate the effectiveness of those habitats through utilization and population trends.

**Results and Evaluation**

**FY 1989**

Some monitoring of this item was done; insufficient information was collected to allow evaluation of the data.

**FY 1990**

No post sale blue grouse habitat surveys were done in FY 1990 nor were any bird or track count transects completed. Nest record forms were completed for the following: three new great blue heron rookeries, two new goshawk nests and one goshawk nest record was updated, one golden eagle nest record was updated, one new osprey nest record was completed, and one osprey nest record was updated. No records were kept of surveyed beaver activity. Two areas of potential northern bog lemming habitat were surveyed and trapped; no bog lemmings were found. Marten and pileated woodpeckers are addressed under monitoring item 12.

**Forestwide Summary**

Monitoring results indicate scheduled habitat surveys were not conducted for one management indicator species.

**Monitoring Item 14  
Threatened, Endangered, and  
Sensitive Species**

**Forestwide Goal**

Habitats of threatened, endangered, and sensitive species will be protected and managed as provided for in the Forest Plan standards and guidelines.

**Purpose of Monitoring**

To determine whether habitat for threatened and endangered species is being managed as directed under their respective recovery plans, interagency guidelines, and Forest Plan standards and guidelines and if agency procedures related to sensitive species are being followed.

**Results and Evaluation**

**FY 1989**

The Forest accomplished threatened and endangered (T&E) species habitat improvement on 91 acres. Threatened and endangered species lists were requested for proposed timber sales and informal evaluations were accomplished on seven proposed sale areas. Sensitive plant field guides were used to conduct field surveys. One proposed timber sale area within grizzly bear and caribou habitat had designed timber harvest objectives evaluated for those species.

**FY 1990**

Caribou and grizzly bear habitat was evaluated on 90,000 acres in two proposed timber sale areas. Midwinter bald eagle surveys were conducted on 46,300 acres covering 13 map quadrants on three ranger districts. Two reported bald eagle nests were surveyed, one of which was verified. A report of a pair of peregrine falcons was surveyed and determined to be kestrels.

More intensive and extensive sensitive plants surveys were carried out on the Forest than ever before. Forty nine areas, covering 3,965 acres were surveyed for 23 species of sensitive plants. Twenty four new populations of 18 species of sensitive plants were located. Thirteen populations were relocated. One possible new species was found and sent to a taxonomist for species determination.

The Forest prepared environmental documentation and cooperated with the Washington Department of Wildlife (WDW) and Washington Trappers Association to reintroduce pine marten. The feasibility of introducing peregrine falcons on the Colville Ranger District is being examined by the Forest, in association with WDW and with the assistance of the Peregrine Fund. The WDW and the U.S. Fish and Wildlife Service provide Forest biologists technical information regarding the effects of management activities on T&E species.

Endangered Species Act administrative activities in FY 1990 included the following:

- 12 T&E species lists were requested,
- 22 biological evaluations were written involving 4 T&E animals, 3 sensitive animals, and 4 sensitive plants,
- 16 informal consultations with the U.S. Fish and Wildlife Service were made,
- 3 Biological Assessments were written, and
- 1 formal consultation was initiated on the Sullivan Lake Ranger District.

Supplemental Forest guidelines for the grizzly bear and the mountain caribou were included in the Forest Plan EIS, Appendices H and I. The unified *Grizzly Bear Cumulative Effects Model* was published in 1990, and *Determining Grizzly Bear Nuisance Status* was revised.

#### **Forestwide Summary**

Monitoring results indicate Forest Plan standards and guidelines for threatened, endangered, and sensitive species are being met.

### **Monitoring Item 15 Fisheries**

#### **Forestwide Goal**

To manage habitat in compliance with Forest Plan standards and guidelines for fisheries.

#### **Purpose of Monitoring**

To determine if fish habitat and populations are being managed as directed under the Forest

standards and guidelines. To meet the projected desired future condition and projected habitat improvements.

### **Results and Evaluation**

#### **FY 1989**

Some monitoring of this item was done; insufficient information was collected to allow evaluation of the data.

#### **FY 1990**

Fish habitat, fish populations, and fisheries improvements were monitored in several streams this year. All of the areas were at or above the expected condition. All of the improvement structures were functioning as planned.

### **Forestwide Summary**

Monitoring results indicate that the habitat, populations and structures sampled met Forest Plan objectives or standards and guidelines.

The desired future condition should be defined for each stream on the Forest. The monitoring process should then allow comparison of the stream's current condition to the desired future condition to establish if progress is being made to reach the desired future condition. If progress is not being made, an action plan should be developed to ensure the objectives of the Forest Plan are being met.

### **Monitoring Item 16 Range Improvements**

#### **Forestwide Goal**

All planned and financed improvements shall be constructed to Forest Service standards and shall be maintained per annual permittee plan instructions.

#### **Purpose of Monitoring**

To ensure safety and aesthetic values are maintained in construction of improvements and that economic requirements are met and maintained through the system.

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## Forest Plan Monitoring

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### Results and Evaluation

#### FY 1989

Proposed Forest Plan activities were not fully funded in FY 1989. Additional funds were requested to meet the level of improvements scheduled in the Forest Plan.

#### FY 1990

The portion of the new improvements constructed in 1990 that were monitored include 3 miles of fence, 1 cattleguard, and 11 water developments. One fence failed to meet Forest Service standards. Ten percent of the existing improvements were monitored. All 10 percent, with the exception of 14 water troughs and 6 miles of fence on the Republic Ranger District, met current Forest Service standards. The permittees will be required to bring those structures up to standard prior to the next grazing season.

#### Forestwide Summary

Monitoring results indicate that the majority of new and existing improvements meet Forest Service standards for range improvements. For those improvements not meeting standards, the permittees will be required to bring those structures up to standard prior to the next grazing season.

### Monitoring Item 17 Animal Unit Months of Livestock Use Permitted

#### Forestwide Goal

The Forest will permit 35,000 AUMs annually, plus or minus 10%.

#### Purpose of Monitoring

To determine the ability of the Forest and permit system to meet the output level projected by the Forest Plan.

#### Results and Evaluation

##### FY 1989

Monitoring reports indicate 35,100 AUMs were used.

##### FY 1990

Monitoring reports indicate 34,758 AUMs were used in 1990. This output is within the 10%

threshold of variability and meets the Forest Plan direction.

#### Forestwide Summary

Monitoring results indicate AUM use is within Forest Plan standards.

### Monitoring Item 18 Utilization of Forage

#### Forestwide Goal

The Forest's forage resource will be used according to Forest standards and guidelines depicted in tables 4.15 and 4.16 in the Forest Plan.

#### Purpose of Monitoring

Monitoring will provide information for maintaining or improving the Forest's forage resource, while providing for its proper use.

#### Results and Evaluation

##### FY 1989

Data was collected on one ranger district in 1989 and forage utilization was within the standards.

##### FY 1990

**Colville Ranger District** Riparian utilization was measured on South Fork Mill Creek and was within forage use standards. Upland areas and the two other allotments were not measured.

**Kettle Falls Ranger District** Four allotments were monitored. In general, utilization standards and guidelines are being met. There are site specific areas where utilization exceeds prescribed levels and corrective actions for these areas will be included in their FY 1991 annual operating plans.

**Newport Ranger District** No monitoring scheduled this year.

**Republic Ranger District** Five allotments were monitored. In general, utilization standards and guidelines are being met. There are site specific areas in the Bamber and Empire allotments where riparian utilization exceeded prescribed levels, but the overall utilization of the allotment did meet standards and guidelines. The revised Allotment Management Plan for the Bamber Allotment is

scheduled to be issued in 1991 and will address methods to ensure standards and guidelines are met in those concentrated use areas. The Empire Allotment is managed on a modified rest-rotation system of grazing the allotment 3 years and then no grazing for 1 year, to ensure that a satisfactory range condition is maintained. In addition, the Allotment Management Plan for the Empire Allotment is scheduled to be revised in 1992 and will address methods to ensure standards and guidelines are met in those concentrated use areas. Utilization was within standards on the other three allotments.

**Sullivan Lake District** Two allotments were monitored. Riparian utilization exceeded the 50% standard on the Tiger Hill allotment; upland use met the 60% standard. In response to that situation, the district will monitor the Tiger Hill allotment more frequently in 1991 and when forage utilization approaches Forest Plan allowable utilization levels, the livestock will be moved to another pasture. Utilization of riparian and upland areas on the Lost Creek allotment was within standards.

#### **Forestwide Summary**

Monitoring results indicate that in general, utilization standards and guidelines are being met. There are site specific areas where riparian utilization exceeds acceptable levels, but overall allotment utilization did meet standards and guidelines.

### **Monitoring Item 19 Condition of Riparian and Range Resources**

#### **Forestwide Goal**

To ensure all range ecosystem types within the range allotments are in at least fair condition and this condition continues to improve over time, especially with respect to potential.

#### **Purpose of Monitoring**

To provide evidence that management activities are effective and the resource is capable of producing forage on a sustained yield basis without deterioration of the resource.

### **Results and Evaluation**

#### **FY 1989**

Some monitoring of this item was done; insufficient information was collected to allow evaluation of the data.

#### **FY 1990**

**Colville Ranger District** Monitoring field reviews were conducted by the Forest Monitoring Team, composed of the Forest Leadership Team and resource specialists. The team reviewed the condition of the meadows and riparian areas along the North Fork Chewelah Creek. The standard for forage utilization was met and no more than 5% of livestock related bare soil was present in the riparian area. Some accelerated stream sedimentation was noted by the Forest hydrologist. To ensure riparian area protection, suggested mitigation measures included planting vegetation along the stream banks, keeping cattle out of the stream, or placing rip-rap on eroded stream banks.

The Wilson Creek area was also reviewed by the Forest Monitoring Team. While no condition and trend transects were taken during that trip, livestock use appeared to be exceeding the Forest Plan standards and guidelines, in the portion of the allotment the team visited. Fencing to exclude livestock use in the small portion of the area where the impacts were occurring was considered a potential mitigation measure.

**Kettle Falls Ranger District** A field review by the Forest Monitoring Team was conducted on a portion of the Churchill Allotment adjacent to Fisher and Pierre creeks. While no condition and trend transects were taken during that trip, results of the review indicated that 50% utilization had occurred and 5% livestock related bare soil existed in the riparian area, which met Forest Plan standards.

**Newport Ranger District** Calispell Creek allotment was monitored and determined to be in satisfactory condition. There was less than 5% livestock related bare soil in the riparian area in both Delaney Meadows and the Middle Fork of Calispell Creek.

**Republic Ranger District** Bamber and Tonata allotments were monitored for condition and

## Forest Plan Monitoring

condition trend. In both cases and when compared to data collected last year, the present condition is good with range condition improvement showing an upward trend. Additional range condition trend analyses will be completed in 1991.

The Forest Monitoring Team visited the Thirteen Mile area to review range conditions. The area visited appeared to have been heavily grazed in the past, but currently met utilization standards and the range condition trend was improving.

**Sullivan Lake Ranger District** While no condition and trend transects were taken, visual estimates indicated livestock related bare soil was less than the 5% standard. The range condition was not rated. The Forest Monitoring Team visited the One-Sixteen Timber Sale in the LeClerc Creek watershed. While no condition and trend transects were taken, it appeared upland forage use exceeded the Forest Plan standard. Riparian use was estimated at 50%, which met the Forest Plan standard. Within the riparian area, livestock related bare soil met the 5% Forest Plan standard. There was evidence of streambank disturbance along the Middle Branch of Le Clerc Creek. In response to that situation, livestock will not be grazed in that riparian area in the 1991 season.

### Forestwide Summary

Monitoring results indicated that of the eight areas sampled to assess the condition of riparian and range resources, six areas met Forest Plan standards and guidelines and two areas appeared to exceed the standards.

Throughout the Forest, road crossings and timber harvest can make riparian areas accessible and, therefore, subject to increased use. If necessary, mitigation measures will be considered to control that use, particularly the first decade after disturbance.

## Monitoring Item 20 Restocking of Lands

### Forestwide Goal

The National Forest Management Act requires regeneration of harvested units must occur within 5 years. Stocking should be sufficient to meet Forest Plan yield projections.

### Purpose of Monitoring

To determine if harvested lands are being restocked with the proper number, type, and species of trees to meet the NFMA requirements for restocking and Forest Plan projections for future yields.

### Results and Evaluation

#### FY 1989

All lands being restocked in FY 1989 met restocking obligations. Restocking assumptions of the Forest Plan are being met.

Plantation Survival and Growth (1989)

First Year	Acres	Percent
Total Area Sampled	3973	100
Average Survival		92
Survival by Species:		
Ponderosa Pine		93
Western Larch		77
Douglas Fir		95
Engelman Spruce		93
All Others		100
Target Growth (4 cm) Met	3098	77
Replanted Due to Plantation Failures	132	

Third Year	Acres	Percent
Total Area Sampled	1963	100
Average Survival		90
Survival by Species:		
Ponderosa Pine		85
Western Larch		86
Douglas Fir		93
Engelman Spruce		93
Western White Pine		75
Certified as Restocked	1569	95

FY 1990

Status of Units Harvested in 1984

	Acres	Percent
Total Harvest	4820	100
Areas Certified as Stocked	2549	53
Shelterwood Harvest	547	11
3rd Yr Cert Exam not Completed	1376	29
Units Lost to Wildfire	127	3
Initial Planting Failed (Unit Replanted)	221	5

Plantation survival and growth surveys are conducted in the fall, with the analysis usually completed by December. Only one ranger district completed their surveys and analysis in time to be included in this monitoring report. They reported a first year survival average of 89% and third year survival of 79%. Ninety percent of their third year acres were certified as sufficiently stocked.

**Forestwide Summary**

The data that has been collected indicates the Forest is successfully restocking lands. Ninety five percent of the acres planted in 1987 are fully stocked. Eight percent of the units harvested in 1984 are in need of replanting (5% due to plantation failures, and 3% due to wildfire). It appears that the Forest is meeting this monitoring item.

A plantation monitoring program is being developed to respond to the need to track more information on plantations. The Forest has a need to develop an activity database which would be used to track the accomplishment of activities such as harvest, site preparation, planting, and thinning and to facilitate the scheduling of interrelated activities.

**Monitoring Item 22  
Land Suitability**

**Forestwide Goal**

To ensure harvest activities are scheduled only on lands meeting the timberland suitability criteria displayed in Appendix B of the Final EIS.

**Purpose of Monitoring**

To ensure programmed harvest activities are only taking place on suitable lands.

**Results and Evaluation**

**FY 1990**

Individual harvest units are reviewed on the ground prior to harvest to assess their suitability for management. The Forest Monitoring Team also reviewed harvest unit selection. Several ranger districts have made requests to have units reviewed for suitability. These reviews have been made. Lands not meeting suitability criteria are noted on maps for later updates to the Forest Plan.

**Forestwide Summary**

Field reviews indicate no harvest is taking place on unsuitable lands.

**Monitoring Item 23  
Size and Dispersal  
of Harvest Units**

**Forestwide Goal**

Harvest unit layout, with respect to size and dispersal of openings, will adhere to the Forest Plan standards and guidelines.

**Purpose of Monitoring**

To ensure projects are meeting Forest Plan standards and guidelines and that any proposals for exceptions to unit size limitations follow the notice and review requirements included in the NFMA regulations.

**Results and Evaluation**

**FY 1990**

Forest reviews of planned activities indicate that the districts understand the Forest standards and guidelines relating to size and dispersal of openings and are following them.

Four requests were made during the year to exceed the 40 acre maximum size limit for clearcuts. All of these requests were reviewed using the criteria found in the Forest standards and guidelines (Forest Plan, pages 4-48 to 49). The only exception

## Forest Plan Monitoring

granted was a unit placed next to a permanent opening, a gravel pit.

### Forestwide Summary

Monitoring results indicate harvest units meet dispersal and size limitations as specified in the Forest Plan.

## Monitoring Item 24 Acres of Silvicultural Practices by Management Area

### Forestwide Goal

To ensure that areas treated on the Forest are consistent with the Forest Plan projections presented in table 4.10 of the Forest Plan.

### Purpose of Monitoring

To ensure that treatments are consistent with the Forest Plan.

### Results and Evaluation

Acres Harvested by Management Area (1,000 acres)

Mgmt Area	Forest Plan Projection	FY 1989 Actual	FY 1990 Actual
2	0.3	0.05	0.09
3A	0.1	0.53	0.11
5	2.8	2.15	1.45
6	0.9	0.45	0.16
7	5.2	4.96	2.76
8	1.6	0.98	0.24
Total	10.9	9.12	4.81

Acres Harvested by Harvest Method (1,000 acres)

Harvest Method	Forest Plan Projection	FY 1989 Actual	FY 1990 Actual
Clearcut	4.2	3.6	2.7
Seed tree, Shelterwood	2.8	2.6	1.6
Final Removal	2.2	1.1	0.6
Comm. Thinning, Sanitation, Salvage	0	1.0	1.0
Uneven Age	1.7	0.0	0.05
<i>Other</i>	<i>70.9</i>		

### FY 1989

The data for silviculture treatments could not be disaggregated by management area. FY 1989 was a transition year and was not expected to match planned silvicultural practices.

A FORPLAN model problem was found with respect to precommercial thinning cultural treatment needs. The Forest Plan projected the need for 8,200 acres of precommercial thinning per year. Subsequent analysis indicated that the FORPLAN model combined "precommercial thin now" (ready for thinning in the first decade) and "precommercial thin next" (ready for thinning in next decade) condition classes into one class that resulted in the 8,200 acre thinning program. By separating the "thin now" from "thin next", it was determined that 2,700 acres per year is the actual thinning needed during the first decade to meet the FORPLAN models growth and ASQ projections.

### FY 1990

Review of the types of harvests by management area showed some harvests taking place that are not consistent with the Forest Plan. There are two reasons for this. First, some of those units are from sales that were designed and sold prior to the implementation of the Forest Plan. Second, harvest levels were lower than the expected Forest Plan levels due to a decline in demand for finished lumber products. Forest Plan projections are based on averages per decade. Annual fluctuations, caused by various factors, can be tolerated as long as the average for the decade is not exceeded.

### Forestwide Summary

Monitoring results indicate that harvest applications for sales that have been developed since implementation of the Forest Plan are consistent with the Forest Plan.

## Monitoring Item 25A Water Quality, Including Cumulative Effects

### Forestwide Goal

To ensure that current Forest water quality meets Washington State water quality goals.

3.0  
1.8  
2.0  
0.2  
2.3  
0.7  
0.7

### **Purpose of Monitoring**

To determine if implementation of the Forest Plan results in maintaining or improving water quality within established standards and guidelines.

### **Results and Evaluation**

#### **FY 1989**

Forest Plan objectives for water quality were generally met for each streamside management unit class of stream. Visual observations indicated that there could be problems in three drainages, South Fork O'Brien Creek, Boulder Creek and the North Fork of Chewelah Creek. Additional stream monitoring was done on those streams to determine if there is a problem.

#### **FY 1990**

Water quality data and stream stability surveys were performed on the streams scheduled. All sampled locations met Washington State Water Quality Standards except for one stream temperature measurement on Cusick Creek (T34N R43E Sec 10 NENE). On July 24, 1990, the stream measured 17°C and the state standard indicates an upper limit of 16°C caused by human activity. Due to time limitations and the Forest's fisheries biologist's judgement that such temperature was not detrimental, investigation into the cause of the temperature was not made. Past records indicate the standard was exceeded once before in June 1970 (18°C).

Cumulative watershed effects were assessed for proposed management actions as part of the environmental analysis process for individual projects.

#### **Forestwide Summary**

Monitoring results indicated that all sampled locations met State Water Quality Standards, except for one stream temperature measurement.

## **Monitoring Item 25B Watershed Best Management Practices**

### **Forestwide Goal**

To ensure that watersheds will continue their natural functions of catching, absorbing, and

releasing water in a clean controlled manner, while supporting the current level of beneficial uses.

### **Purpose of Monitoring**

To ensure that Forest Plan standards and guidelines are being met during project implementation through application of appropriate best management practices.

### **Results and Evaluation**

#### **FY 1990**

**Colville Ranger District** The Forest Monitoring Team, composed of the Forest Leadership Team and resource specialists, conducted a field review of the Addy Mountain II Timber Sale, the North Fork Chewelah Creek, Drummond Salvage Sale, and the Wilson Creek areas for implementation of Forest Plan watershed standards and guidelines.

In most cases it appeared Forest Plan standards are being met. In isolated areas, use-related impacts can contribute increased sediment during stormflow. Road construction and maintenance in sandy and highly erodible soil areas can cause accelerated sedimentation in streams. Mitigation measures should be considered where necessary to minimize sedimentation during the construction of stream crossings.

**Kettle Falls Ranger District** The Forest Monitoring Team reviewed portions of the Easthill Timber Sale area for compliance with Forest Plan watershed standards and guidelines. Best management practices for watersheds were evaluated on a portion of Pierre Creek, where livestock are able to graze the riparian area. Livestock use appeared to meet Forest Plan standards and guidelines. The best management practices used in the harvest areas seemed appropriate to protect water quality.

**Newport Ranger District** The Forest Monitoring Team conducted a field review of portions of Nola and Big Ragu timber sales. The boundary of unit 7 of Nola Timber Sale entered a perennial riparian area which did not meet Forest Plan standards and guidelines. That unit boundary was moved to ensure compliance with Forest Plan standards and guidelines. Best management practices were not specifically identified in the environmental assessment; mitigation and other measures were

## Forest Plan Monitoring

documented which constitute best management practices. Watershed best management practices in the other areas reviewed were acceptable and standards and guidelines were met.

**Republic Ranger District** The Forest Monitoring Team conducted a field review of portions of the Scatter Timber Sale. Best management practices for unit 13 along Scatter Creek road were checked. The practices appeared to be conservative and would provide adequate protection for the creek.

Sunset Creek, adjacent to unit 21, was surveyed and found to be dry, prompting the need to reclassify it as a class IV stream. The road grade was very steep in both directions from the stream crossing, adjacent to unit 21, and drainage structures had not yet been constructed.

**Sullivan Lake Ranger District** The Forest Monitoring Team conducted a field review of portions of the One-Sixteen and LeClerc Lodgepole timber sales. Best management practices were not specifically identified in the environmental assessment, but mitigation measures were. The crossings of the West Branch LeClerc Creek met Forest Plan standards and guidelines. Livestock impacts to LeClerc Creek also appeared to be within standards and guidelines. In response to the streambank disturbance noted during the field review, livestock will not be grazed in that riparian area in the 1991 season. Timber sale best management practices were considered adequate.

### Forestwide Summary

In most cases, Forest Plan standards and guidelines for implementing watershed best management practices are being met. The Forest has initiated a number of actions to address the issue of sediment and its relationship to water quality values. Ongoing fish habitat surveys are documenting the current condition of streams on the forest, to help identify changes in sediment levels in the streams.

Forest staff are also working with researchers at the Pacific Northwest Experiment Station and the Intermountain Experiment Station on the water quality and sediment issues. Researchers at the Intermountain Experiment Station will be studying

the feasibility of correlating the sediment predictive model used in Regions 1 and 4 for use on the forest. The model would then be used as a tool to approximate the effect of national forest activities on water quality values. Researchers at the Pacific Northwest Experiment Station will be studying the effects of sediment on fisheries habitat and riparian areas on the forest.

## Monitoring Item 26 Riparian Areas

### Forestwide Goal

Provide and manage riparian plant communities that maintain a high level of riparian dependent resources.

### Purpose of Monitoring

To determine if Forest Plan standards and guidelines are being followed to ensure riparian area characteristics are maintained or improved through the implementation of projects, thereby protecting the riparian ecosystem.

### Results and Evaluation

#### FY 1989

Executive Orders 11988 and 11990 on wetlands and floodplains are being met. Activities currently being planned under the Forest Plan are designed to meet riparian standards and guidelines. Monitoring for this item was not conducted.

#### FY 1990

Riparian areas were monitored at the same time and in the same areas that best management practices were and comments under Monitoring Item 25A apply.

### Forestwide Summary

A general conclusion after reviewing monitoring results was that Forest Plan standards and guidelines were being met. Timber harvest unit design that follows Forest Plan standards and guidelines met the water quality and riparian goals; however, some mitigation measures may need to be modified to ensure riparian characteristics are protected.

## Monitoring Item 27 Changes in Soil Productivity

### Forestwide Goal

The total acreage of all detrimental soil conditions should not exceed 20% of the total acreage within the activity area, including landings and system roads.

### Purpose of Monitoring

To determine if the Forest is meeting standards and guidelines and to assess the effectiveness of soil management and conservation practices.

### Results and Evaluation

#### FY 1989

The Sullivan Lake Ranger District contracted a grappler-piler for slash disposal and site preparation in late summer 1989. The Forest soil scientist sampled four units with a series of transects to quantify the amount of detrimentally disturbed soil. Analysis indicated the grappler-piler caused almost no additional impacts to the soil on any of the units monitored. Overall, less than 1% of any unit had detrimental disturbance caused by the grappler-piler.

The lack of detrimental disturbance was attributed to several factors which included low ground pressure of the machine, minimum number of trips over the same ground, large amounts of slash, and relatively high number of skid trails and roads already existing in the area. This monitoring effort established the grappler-piler as an alternative slash disposal method to tractor piling or burning. The grappler-piler also has the flexibility to work on slopes over 50% with heavy slash concentrations.

In 1989, the Forest soil scientist also took transects on 31 units throughout the Forest, that were harvested with feller-bunchers (commonly known as shears). The total average (soil) damage was 21% for all units monitored. Fourteen of the older units that were harvested prior to Forest Plan implementation exceeded Regional and Forest guidelines for detrimental soil disturbance. More

recently harvested units, those harvested during 1988/89, had less disturbance - 17% - which meets Forest Plan standards and guidelines. It was estimated that an average of 9% of a unit could be ripped to rehabilitate compacted soil. Deep ripping would reduce compaction to less than 20% in most cases.

Analysis indicated most of the recorded damage occurred as compaction, and as a result of yarding, rather than shearing. All of the units with less than 20% total average damage were yarded during periods of low soil moisture in late summer or winter, or on frozen ground.

#### FY 1990

Soil productivity was assessed during the field reviews described under monitoring item 25B. Spot locations were checked for soil compaction by shovel penetration. Visual estimates were also made of the percentage of activity area that had detrimental soil conditions. All of the locations tested met the soil disturbance standard and guideline. Compaction was limited to the well used skid trails and landings. Disturbed soil subject to displacement by erosion was present but was not expected to enter streams except where roads crossed or were adjacent to streams.

### Forestwide Summary

Monitoring results indicated Forest Plan standards and guidelines were met in sampled units where the grappler-piler was used. Monitoring results also indicated that recently harvested shears units met Forest Plan standards and guidelines.

## Monitoring Item 28 Facilities and Roads: Transportation System Management

### Forestwide Goal

To not exceed the open road mileages presented on page 4-30 of the Forest Plan.

## Forest Plan Monitoring

### Purpose of Monitoring

To measure the effectiveness of closing new roads.

### Results and Evaluation

#### 1989 and 1990

The process the Forest used to meet access and travel management objectives began with analyzing open road densities within big game management areas and identifying location exceeding Forest Plan standards and guidelines. The Forest distributed to the public the 1990 Forest Travel Plan map and solicited comments on potential ORV routes and proposed road and trail closures within the big game management areas. The Forest's current schedule calls for issuing the 1991 Forest Travel Map displaying seasonal closures in spring 1991. The on-the-ground signing of closures is expected to be completed in fall 1991.

#### Foreswide Summary

Monitoring results indicate that with the completion of the 1991 Forest Travel Map, implementation of area restrictions, and on-the-ground signing of closures, Forest Plan open road standards within big game management areas will be met.

## Monitoring Item 29 Insect and Disease Population

### Forestwide Goal

To prevent major losses to insect and disease pathogens.

### Purpose of Monitoring

To prevent catastrophic losses to insect and disease outbreaks.

### Results and Evaluation

Insect Infestation (acres)

Insect	FY 1989	FY 1990
Douglas Fir Beetle	15,600	8,100
Fir Engraver	1,700	10
Mountain Pine Beetle:		
Lodgepole Pine	13,400	13,900
White Pine	2,100	600
Ponderosa Pine	1,700	400
Western Pine Beetle	300	100
Spruce Budworm	3,800	11,400

### FY 1989

Monitoring indicated no major problems with insect and disease activity. Some increase in activity, scattered across the Forest, was noted and is attributed to the drought conditions over the last 3 years. Spruce budworm defoliation is starting to appear on the west side of the Forest.

Insect and disease detection flights are made annually across the Forest to identify areas of insect and disease activity. Some of those activity areas are then verified on the ground.

### FY 1990

Insect and disease activity over the Forest has been building the last few years due to a combination of susceptible stand conditions and reduced precipitation. Precipitation in 1990 was the highest since 1984, and can be characterized as slightly above normal. The information collected during the insect and disease detection flights conducted in summer 1990 are presented below:

Douglas fir bark beetle activity peaked in 1988 at just over 18,000 acres. This year activity was detected on just over 8,000 acres.

Fir engraver activity peaked in 1989 at about 1,700 acres. This year only 10 acres were mapped. Damage from this insect is hard to distinguish between Douglas fir beetle, so there is probably overlap in those two figures.

Mountain pine beetle is, in general, the Forest's most active pest. It attacks several species of pines. They are shown separately:

*Lodgepole pine:* Activity has tapered off slightly from epidemic populations in the early 1980s. Acres infected have dropped from 17,400 in 1987 to between 13 and 14,000 in both 1989 and 1990. Activity is beginning to show up in second growth lodgepole pine stands that are attaining the size to make them attractive to this insect.

*Western white pine:* Activity in 1990 dropped off to 600 acres from around 2,000 in the previous 3 years.

*Ponderosa pine:* Activity is showing the same pattern as white pine with slightly lower acres in all years.

*Western pine beetle:* This insect attacks larger ponderosa pine trees. Only a few hundred acres of activity have been detected on the Forest.

*Spruce budworm:* Activity from this defoliating insect is on the increase. An outbreak on the Okanogan National Forest is moving onto the Republic Ranger District. Activity increase from 1,700 acres in 1987 to 11,400 acres in 1990. The Forest has many susceptible stands that will be attractive to this insect, and increasing defoliation can be expected over the next 5 years or so.

#### **Forestwide Summary**

Monitoring results indicate insect and disease activity over the Forest has been building over the past few years due to a combination of susceptible stand conditions and reduced precipitation. Ranger district staff are assessing treatment needs for affected areas.

### **Monitoring Item 30A Cultural Resource Protection**

#### **Forestwide Goal**

To protect significant archaeological and historic sites.

#### **Purpose of Monitoring**

To ensure management prescriptions for cultural properties are being accomplished and to document instances of vandalism and site destruction.

#### **Results and Evaluation**

##### **FY 1990**

Approximately 5% of the total number of documented cultural properties on the Forest were visited by the Forest archaeologist to ascertain changing site conditions due to vandalism, natural forces, and project effects. Needs for protection were also evaluated during these visits. Site documentation records were updated with the resulting data.

The first year of monitoring resulted in limited, but useful information. The sites visited fall into three categories: 1) those not within any current or planned project area, 2) those within recently completed project areas (such as timber sales), and 3) those sites receiving a fairly high level of

public use. Sites within category 1 generally exhibited noticeable levels of adverse change due to erosion, natural deterioration (of historic structures) and minor vandalism.

Category 2 sites generally demonstrated the same adverse changes. In many instances, even though project planning prescriptions included avoidance of direct impact to a site, the indirect impacts mentioned above were noticeable.

Sites of category 3 included interpreted cultural sites, sites within developed recreational areas, and undeveloped sites receiving high visitor use. While adverse effects due to natural forces were documented, evidence of direct vandalism was generally absent.

Monitoring activities should be expanded to build a sound database for cultural site protection. Some of this monitoring would become the responsibility of the ranger districts' cultural resource management program.

Monitoring results emphasize the weak point in our approach to cultural resource management. Properties, which by project design we avoid disturbing, are nevertheless being continually adversely impacted by vandalism and natural deterioration.

Avoidance is not always sufficient management. The Forest should know why sites are being avoided and do a better job of determining what the goal is for each site. Avoidance does not result in site protection. This is particularly true for the multitude of homesteading, mining and early logging sites on the Forest. Avoidance does not protect a homestead site from adverse effects to those fragile qualities that may give it historical significance.

A more sound management strategy includes mitigating adverse impacts through thematic studies. This would result in the recovery of the cultural significance of sites of that theme through researching and writing the history of, for example, homesteading in the Pend Oreille Valley.

In this example, the majority of sites would then need no further management actions, while a few which may be representative of the theme could

be actively managed (i.e., stabilized and interpreted for educational benefit).

**Forestwide Summary**

Monitoring results indicated that sites not within any current or planned project areas and sites within recently completed project areas displayed noticeable levels of adverse change, due to erosion, natural deterioration, and minor vandalism. Sites receiving a fairly high level of public use displayed adverse effects due to natural forces but evidence of direct vandalism was generally absent.

**Monitoring Item 30B  
Cultural Resource Compliance**

**Forestwide Goal**

To protect cultural resources through compliance with established management guidelines.

**Purpose of Monitoring**

To ensure all federal, state, agency, and Forest cultural resource compliance mandates are being met in a consistent and timely manner. To ensure that appropriate mitigation is incorporated into management activities.

**Results and Evaluation**

**FY 1990**

Monitoring was performed by tracking of all Forest project compliance activities through the use of established program procedures, documented on standardized forms. All monitoring actions were performed by the Forest archaeologist.

Compliance flowline mechanisms which have been established should allow for the timely completion of all NEPA and National Historic Preservation Act mandates for planned project undertakings. However, this assumes that sufficient lead time is provided in scheduling all compliance activities, and sufficient trained personnel are available to perform the work. In reality, we have been lacking in both time and personnel necessary to accomplish the compliance work for the timber program on the Forest. As a result, on almost all ranger districts compliance activities have not been performed in a timely manner.

Support dollars available are insufficient for current timber harvest workload requirements. Support monies available for cultural resource management need to be increased if we are to meet all compliance requirements.

The Forest is beginning to mitigate adverse effects by data recovery (e.g., historical research) for some cultural site categories, as an alternative to avoidance management. This appropriate compliance procedure will save time and money in the long run, while forming the basis for long-term management of the resource. It would benefit decision-makers to gain an understanding of the mechanisms and benefits of this cultural resource mitigative measure.

**Forestwide Summary**

Monitoring results indicate on almost all ranger districts compliance activities have not been performed in a timely manner.

**Monitoring Item 31  
Comparison of Actual and Planned  
Implementation Costs and Total  
Economic Value of Priced Outputs**

**Forestwide Goal**

To produce Forest goods and services in the most cost efficient way consistent with providing net public benefits.

**Purpose of Monitoring**

To determine if actual funding allocations differ from proposed Forest Plan budgets. To determine if Forest Plan activity/unit costs and actual activity/unit costs differ. To determine differences between actual total economic value of Forest outputs and values predicted by the Forest Plan.

**Results and Evaluation**

**FY 1989**

The total budget for FY 1989 was \$15,481,480 in 1990 dollars. The proposed budget as stated in the Forest Plan is \$23,853,318 in 1990 dollars. The FY 1989 budget was \$8.4 million dollars less than what was proposed by the Forest Plan (see

table 3.2). Refer to chapter 3 of this report for further explanation and detail.

The economic values of priced Forest outputs are shown in table 3.3. The total economic value for all priced outputs for FY 1989 was \$60,797,307 (1990 dollars). For more detail and explanation refer to chapter 3, the section titled "Expenditure and Economic Value Comparison."

#### **FY 1990**

The total budget for FY 1990 was \$15,964,728 (1990 dollars). The proposed budget as stated in the Forest Plan is \$23,853,318 (1990 dollars). This budget represents a shortfall of \$7.9 million (see table 3.2 in chapter 3). For further explanation and detail regarding comparison of funding levels and activity/unit costs to those state in the Forest Plan refer to chapter 3, the section titled "Expenditure and Economic Value Comparison."

The economic values of priced Forest outputs are shown in table 3.3. The Forest Plan predicted the total economic value of priced outputs to be \$42,856,540 (1990 dollars). The total economic value for all priced outputs for FY 1990 was \$36,042,918 (1990 dollars.) A detailed explanation of these values and their variances is provide in chapter 3, in the section titled "Economic Values."

#### **Forest Summary**

The Forest has not completed any analyses comparing actual to planned implementation costs. Efforts to provide this information for the next monitoring report will be initiated during this fiscal year.

One of the objectives of monitoring implementation costs is to be able to determine if adequate funding levels are being requested and/or appropriated. Forest Plan implementation costs were originally estimated in 1982. It may be safe to assume that most costs have increased since then. But, even if the assumption is made that costs have not changed and all costs were estimated correctly, current funding levels are not adequate to fully allow Forest Plan implementation.

If actual funding levels were equal to Forest Plan funding levels for the next 8 years, the 10 year average will be 7% below the Forest Plan 10 year average. The threshold of variability for changes

in implementation costs is plus or minus 5% . This possible 2% shortfall can be overcome during the next 8 years in one of two ways. One, the Forest must receive higher levels of funding than those stated in the Forest Plan or two, the results of the implementation costs analysis must show that an adequate portion of costs are lower now than they were in 1982 or that a significant portion of the costs were overestimated for the Forest Plan.

The appropriate time to evaluate changes in the economic values of the Forest outputs is after 3 to 5 years of Forest Plan implementation. An evaluation is not possible or appropriate at this time because of recent changes in the methods for recording, reporting and valuing various resources.

## **Monitoring Item 32 Economic Effects of Plan Implementation**

### **Forestwide Goal**

To produce Forest goods and services in the most cost efficient way consistent with providing net public benefits.

### **Purpose of Monitoring**

To note significant changes in payments to counties and returns to the US treasury from Forest Plan projections.

### **Results and Evaluation**

#### **FY 1989**

The Forest Plan estimated that the payments to counties due to plan implementation would be \$3.3 million dollars (1982 dollars). Table 2.2 shows payments to counties for FY 1989 was \$1.9 million (1982 dollars).

The Forest Plan estimated that the returns to government, due to plan implementation, would be \$12.6 million (1982 dollars). Actual returns to government for FY 1989 was \$9.6 million (1982 dollars).

#### **FY 1990**

The Forest Plan estimated that the payments to counties due to implementation of the Forest Plan

## Forest Plan Monitoring

would be \$3.3 million (1982 dollars). Table 2.2 shows payments to counties for FY 1990 was \$1.4 million (1982 dollars).

The Forest Plan estimated that the returns to government, due to Plan implementation, would be \$12.6 million (1982 dollars). Actual returns to government for FY 1990 was \$6.3 million (1982 dollars).

### Forest Summary

The differences between the actual fiscal year payments to counties and returns to government and those predicted by the Forest Plan will be reconciled in FY 1991. Payments to counties is dependent on returns to government, which is dependent on the amount of timber harvested. Fiscal year 1989 timber harvests were very close to the harvest predicted by the Forest Plan. Because FY 1989 returns to government were 51 percent less than expected, it appears that the estimated returns to government of 3.3 million, predicted by the Forest Plan, is in error. Either the costs components of the returns to government were understated, the values for timber were overestimated, or both. Whatever the case is, it appears the differences between FY 1989 and FY 1990 are more than likely due to decreases in timber harvest in FY 1990.

## Monitoring Item 33 Coordination With Adjacent Landowners

### Forestwide Goal

To consider how Forest activities affect adjacent landowners when making project decisions.

### Purpose of Monitoring

To meet the requirements of the National Forest Management Act by ensuring the effects of national forest management on land, resources, and communities adjacent to the national forest are considered.

### Results and Evaluation

#### FY 1989

Issues and concerns of adjacent landowners are being addressed during the environmental analysis

scoping process leading to the development of project NEPA documents.

#### FY 1990

Coordination with other landowners continues to be done principally through project scoping, which consists of formal and informal contacts about proposed Forest activities that may affect adjacent landowners.

The process of considering information from adjacent landowners is in place and functioning. A series of staff and administrative reviews was used to determine if adequate project scoping of adjacent landowners occurs during the environmental analysis process. One of the specific items looked for in the NEPA document review (Monitoring Item 1) is a summary of the persons and agencies consulted about the project. Any oversight in the project scoping effort that is detected during that review process is sent back to the district proposing the activity for corrective action. Because all known instances of oversight were returned for correction there is a continuing awareness of the need for thorough project scoping.

The Forest's increasing effort to inform and involve adjacent landowners and the public in project planning is reflected in the development of a list and description of all resource management projects the forest is planning for 1991. That document, *Projects '91*, was distributed to over 500 individuals and groups to inform them about projects being planned on the Forest and to solicit their views on those projects. The Forest's current schedule calls for that project list to be issued annually.

### Forestwide Summary

Monitoring results indicate the process of considering information from adjacent landowners is in place and functioning.

## Monitoring Item 34 Planning - Modeling Assumptions (Primarily FORPLAN)

### **Forestwide Goal**

To produce Forest goods and services in the most cost efficient way consistent with providing net public benefits.

### **Purpose of Monitoring**

To determine if FORPLAN modeling assumptions reflect actual Forest conditions.

### **Results and Evaluation**

#### **FY 1989**

No monitoring was conducted during FY 1989.

#### **FY 1990**

The outputs of FORPLAN, Modified-G alternative, were spatially disaggregated by district, management emphasis, and resource-shed during FY 1990. More validation modeling is planned for FY 1991. The *Forest Plan Monitoring Guide*, developed during FY 1990, provides further information regarding planned validation monitoring with respect to FORPLAN.

#### **Forest Summary**

No conclusions can be made at this time with respect to the validity of any modeling assumptions and the subsequent effects on Forest Plan implementation.

## **Monitoring Item 35 Mineral Activities**

### **Forestwide Goal**

To provide opportunities for mineral exploration and development while integrating those activities with the planning and management of other forest resources, protecting surface resource values and meeting management area objectives.

### **Purpose of Monitoring**

To determine if Forest Plan standards and guidelines are being met.

### **Results and Evaluation**

#### **FY 1989**

Guidelines were met in FY 1989, except for variability thresholds being exceeded in one area.

The timeframes for Forest response to minerals proposals under 36 CFR 228A were met about 70% of the time instead of 90%. It appears that personnel turnover is the main reason for this.

#### **FY 1990**

Monitoring results from all ranger districts indicated reclamation was accomplished or in progress as prescribed. Forest Service response time frames were met and no appeals on mineral projects were filed.

#### **Forestwide Summary**

The 76 mineral operating plans reported for FY 1990 are less than half the number projected in the Forest Plan for the decade. The Forest Plan projection was based on previous year's attainments which were reported somewhat differently. It appears the outputs projected in table 4.1 of the Forest Plan could be reduced by half to bring plan estimates within closer range of actual values.

## **Monitoring Item 36 Community Effects**

### **Forestwide Goal**

To produce Forest goods and services in the most cost efficient way consistent with providing net public benefits.

### **Purpose of Monitoring**

To report various social and economic indicators.

### **Results and Evaluation**

The results and analysis regarding this monitoring item are provided in chapter 3, section titled "Socioeconomic Report."

#### **Forest Summary**

The appropriate time to evaluate changes in socioeconomic characteristics, the level of the Forest's contribution to the local economy and changes in lifestyles and attitudes would, at a minimum, be after 3 to 5 years of Forest Plan implementation.

## 5. FOREST PLAN APPEALS

Six timely appeals were filed on the Colville National Forest Land and Resource Management Plan. The status of those appeals is described below. All unresolved appeals (appellants 3, 4, and 5) are currently being reviewed in the Washington Office of the Forest Service and those appeal decisions are scheduled for spring 1991.

APPELLANT	ISSUES	STATUS
<p>1. American Rivers, Inc.</p>	<p>1. Failed to consider eligibility of streams that were not listed on National Park Service Rivers Inventory.                  2. Plan failed to establish detailed management standards to protect potential wild, scenic, and recreation rivers.</p>	<p>Settlement Agreement signed and appeal withdrawn.                  Colville Forest Plan Amendment #1, signed November 30, 1990 by Forest Supervisor Ed Schultz, was the product of that Settlement Agreement with American Rivers. Forest Plan Amendment #1 does not find additional streams eligible for inclusion into the Wild and Scenic Rivers System, but more specifically, defines management direction for national forest lands along the Kettle River or other streams determined to be eligible for inclusion in the future.</p>
<p>2. Bead Lake Clean Water Association</p>	<p>1. Plan does not provide adequate protection of water quality in Bead Lake.                  2. Plan does not provide an acceptable level of visual quality in the Bead Lake area.                  3. Management of increased recreational utilization.</p>	<p>Settlement Agreement signed and appeal withdrawn in December 1989.                  The provisions in the Settlement Agreement will be reflected in an upcoming Forest Plan Amendment that will address:                  1. Implementation of a water quality monitoring plan:                  2. For areas visible from the surface of the lake and the homes, forest management activities will, at a minimum, meet the visual quality standard of partial retention:                  3. Increased monitoring of recreational use around the lake; development of a recreation plan for the Bead Lake area prior to campground or boat launch development; and during development of a forestwide travel implementation schedule, the Forest will issue a closure order on Bead Lake trail, limiting motorized use to the trail only.</p>

## Forest Plan Appeals

APPELLANT	ISSUES	STATUS
3. Inland Empire Lands Council (IEPLC)	<ol style="list-style-type: none"> <li>1. Clearcutting</li> <li>2. Wildlife</li> <li>3. Water Quality and Fisheries</li> <li>4. Old Growth</li> <li>5. The Kettle Range</li> <li>6. Cumulative Impacts</li> <li>7. Allowable Sale Quantity</li> <li>8. Monitoring</li> <li>9. Threatened &amp; Endangered Species</li> <li>10. Budget</li> </ol>	<p>In December 1989, Appellants 3, 4, and 5 agreed to enter negotiations with the Forest Service and the other two appellants.</p> <p>A professional mediation firm was selected by consensus of all parties to provide mediation services and the Forest Service signed a contract with the firm for \$16,000.</p> <p>Negotiations took place from March through July. In July 1990, Forest Supervisor Ed Schultz formally ended the negotiation process in response to communication from the IEPLC representative recommending the negotiations not proceed.</p>
4. Northwest Forestry Association	<ol style="list-style-type: none"> <li>1. Forest Service arbitrarily and needlessly adopted final plan that will not provide sufficient timber outputs to maintain employment and income.</li> <li>2. Timber supply/demand analysis was flawed.</li> <li>3. Record of Decision misrepresents supposed conflicts between higher timber production and recreation and wildlife benefits.</li> <li>4. There was an inadequate consideration of alternative ways to coordinate various uses in harmonious fashion in violation of Multiple Use Sustained Yield Act of 1960.</li> <li>5. There was a misrepresentation of the results of public comments on the draft forest plan.</li> <li>6. Regional Forester's decision was an arbitrary political compromise.</li> </ol>	<p>In December 1989, Appellants 3, 4, and 5 agreed to enter negotiations with the Forest Service and the other two appellants.</p> <p>A professional mediation firm was selected by consensus of all parties to provide mediation services and the Forest Service signed a contract with the firm for \$16,000.</p> <p>Negotiations took place from March through July. In July 1990, Forest Supervisor Ed Schultz formally ended the negotiation process in response to communication from the IEPLC representative recommending the negotiations not proceed.</p>
5. Public Land Users Coalition	<ol style="list-style-type: none"> <li>1. Forest Service needlessly and arbitrarily adopted a plan that does not provide timber and range outputs and access for mineral exploration and development needed to maintain resource-based economy.</li> <li>2. Plan does not correctly display the potential economic and social impacts on local communities.</li> <li>3. Forest has adopted a plan that fails to harmoniously manage resources to maintain community stability and healthy environment when an available alternative would have done so.</li> <li>4. Excessively large acreages of roadless areas were set aside without examining environmental and economic tradeoffs.</li> <li>5. Forest Service has not objectively displayed and responded to public comment on the draft environmental impact statement.</li> </ol>	<p>In December 1989, Appellants 3, 4, and 5 agreed to enter negotiations with the Forest Service and the other two appellants.</p> <p>A professional mediation firm was selected by consensus of all parties to provide mediation services and the Forest Service signed a contract with the firm for \$16,000. Negotiations took place from March through July. In July 1990, Forest Supervisor Ed Schultz formally ended the negotiation process in response to communication from the IEPLC representative recommending the negotiations not proceed.</p>
6. John Swanson	<p>The Forest Plan is in violation of the National Forest Management Act, Endangered Species Act, Wild and Scenic River Act, Wilderness Act, and the Multiple Use Sustained Yield Act.</p>	<p>Appeal dismissed by the Chief of the Forest Service.</p>

table 3.2). Refer to chapter 3 of this report for further explanation and detail.

The economic values of priced Forest outputs are shown in table 3.3. The total economic value for all priced outputs for FY 1989 was \$60,797,307 (1990 dollars). For more detail and explanation refer to chapter 3, the section titled "Expenditure and Economic Value Comparison."

#### **FY 1990**

The total budget for FY 1990 was \$15,964,728 (1990 dollars). The proposed budget as stated in the Forest Plan is \$23,853,318 (1990 dollars). This budget represents a shortfall of \$7.9 million (see table 3.2 in chapter 3). For further explanation and detail regarding comparison of funding levels and activity/unit costs to those state in the Forest Plan refer to chapter 3, the section titled "Expenditure and Economic Value Comparison."

The economic values of priced Forest outputs are shown in table 3.3. The Forest Plan predicted the total economic value of priced outputs to be \$42,856,540 (1990 dollars). The total economic value for all priced outputs for FY 1990 was \$36,042,918 (1990 dollars.) A detailed explanation of these values and their variances is provide in chapter 3, in the section titled "Economic Values."

#### **Forest Summary**

The Forest has not completed any analyses comparing actual to planned implementation costs. Efforts to provide this information for the next monitoring report will be initiated during this fiscal year.

One of the objectives of monitoring implementation costs is to be able to determine if adequate funding levels are being requested and/or appropriated. Forest Plan implementation costs were originally estimated in 1982. It may be safe to assume that most costs have increased since then. But, even if the assumption is made that costs have not changed and all costs were estimated correctly, current funding levels are not adequate to fully allow Forest Plan implementation.

If actual funding levels were equal to Forest Plan funding levels for the next 8 years, the 10 year average will be 7% below the Forest Plan 10 year average. The threshold of variability for changes

in implementation costs is plus or minus 5% . This possible 2% shortfall can be overcome during the next 8 years in one of two ways. One, the Forest must receive higher levels of funding than those stated in the Forest Plan or two, the results of the implementation costs analysis must show that an adequate portion of costs are lower now than they were in 1982 or that a significant portion of the costs were overestimated for the Forest Plan.

The appropriate time to evaluate changes in the economic values of the Forest outputs is after 3 to 5 years of Forest Plan implementation. An evaluation is not possible or appropriate at this time because of recent changes in the methods for recording, reporting and valuing various resources.

## **Monitoring Item 32 Economic Effects of Plan Implementation**

### **Forestwide Goal**

To produce Forest goods and services in the most cost efficient way consistent with providing net public benefits.

### **Purpose of Monitoring**

To note significant changes in payments to counties and returns to the US treasury from Forest Plan projections.

### **Results and Evaluation**

#### **FY 1989**

The Forest Plan estimated that the payments to counties due to plan implementation would be \$3.3 million dollars (1982 dollars). Table 2.2 shows payments to counties for FY 1989 was \$1.9 million (1982 dollars).

The Forest Plan estimated that the returns to government, due to plan implementation, would be \$12.6 million (1982 dollars). Actual returns to government for FY 1989 was \$9.6 million (1982 dollars).

#### **FY 1990**

The Forest Plan estimated that the payments to counties due to implementation of the Forest Plan

## Forest Plan Monitoring

would be \$3.3 million (1982 dollars). Table 2.2 shows payments to counties for FY 1990 was \$1.4 million (1982 dollars).

The Forest Plan estimated that the returns to government, due to Plan implementation, would be \$12.6 million (1982 dollars). Actual returns to government for FY 1990 was \$6.3 million (1982 dollars).

### Forest Summary

The differences between the actual fiscal year payments to counties and returns to government and those predicted by the Forest Plan will be reconciled in FY 1991. Payments to counties is dependent on returns to government, which is dependent on the amount of timber harvested. Fiscal year 1989 timber harvests were very close to the harvest predicted by the Forest Plan. Because FY 1989 returns to government were 51 percent less than expected, it appears that the estimated returns to government of 3.3 million, predicted by the Forest Plan, is in error. Either the costs components of the returns to government were understated, the values for timber were overestimated, or both. Whatever the case is, it appears the differences between FY 1989 and FY 1990 are more than likely due to decreases in timber harvest in FY 1990.

## Monitoring Item 33 Coordination With Adjacent Landowners

### Forestwide Goal

To consider how Forest activities affect adjacent landowners when making project decisions.

### Purpose of Monitoring

To meet the requirements of the National Forest Management Act by ensuring the effects of national forest management on land, resources, and communities adjacent to the national forest are considered.

### Results and Evaluation

#### FY 1989

Issues and concerns of adjacent landowners are being addressed during the environmental analysis

scoping process leading to the development of project NEPA documents.

#### FY 1990

Coordination with other landowners continues to be done principally through project scoping, which consists of formal and informal contacts about proposed Forest activities that may affect adjacent landowners.

The process of considering information from adjacent landowners is in place and functioning. A series of staff and administrative reviews was used to determine if adequate project scoping of adjacent landowners occurs during the environmental analysis process. One of the specific items looked for in the NEPA document review (Monitoring Item 1) is a summary of the persons and agencies consulted about the project. Any oversight in the project scoping effort that is detected during that review process is sent back to the district proposing the activity for corrective action. Because all known instances of oversight were returned for correction there is a continuing awareness of the need for thorough project scoping.

The Forest's increasing effort to inform and involve adjacent landowners and the public in project planning is reflected in the development of a list and description of all resource management projects the forest is planning for 1991. That document, *Projects '91*, was distributed to over 500 individuals and groups to inform them about projects being planned on the Forest and to solicit their views on those projects. The Forest's current schedule calls for that project list to be issued annually.

### Forestwide Summary

Monitoring results indicate the process of considering information from adjacent landowners is in place and functioning.

## Monitoring Item 34 Planning - Modeling Assumptions (Primarily FORPLAN)

### **Forestwide Goal**

To produce Forest goods and services in the most cost efficient way consistent with providing net public benefits.

### **Purpose of Monitoring**

To determine if FORPLAN modeling assumptions reflect actual Forest conditions.

### **Results and Evaluation**

#### **FY 1989**

No monitoring was conducted during FY 1989.

#### **FY 1990**

The outputs of FORPLAN, Modified-G alternative, were spatially disaggregated by district, management emphasis, and resource-shed during FY 1990. More validation modeling is planned for FY 1991. The *Forest Plan Monitoring Guide*, developed during FY 1990, provides further information regarding planned validation monitoring with respect to FORPLAN.

### **Forest Summary**

No conclusions can be made at this time with respect to the validity of any modeling assumptions and the subsequent effects on Forest Plan implementation.

## **Monitoring Item 35 Mineral Activities**

### **Forestwide Goal**

To provide opportunities for mineral exploration and development while integrating those activities with the planning and management of other forest resources, protecting surface resource values and meeting management area objectives.

### **Purpose of Monitoring**

To determine if Forest Plan standards and guidelines are being met.

### **Results and Evaluation**

#### **FY 1989**

Guidelines were met in FY 1989, except for variability thresholds being exceeded in one area.

The timeframes for Forest response to minerals proposals under 36 CFR 228A were met about 70% of the time instead of 90%. It appears that personnel turnover is the main reason for this.

#### **FY 1990**

Monitoring results from all ranger districts indicated reclamation was accomplished or in progress as prescribed. Forest Service response time frames were met and no appeals on mineral projects were filed.

### **Forestwide Summary**

The 76 mineral operating plans reported for FY 1990 are less than half the number projected in the Forest Plan for the decade. The Forest Plan projection was based on previous year's attainments which were reported somewhat differently. It appears the outputs projected in table 4.1 of the Forest Plan could be reduced by half to bring plan estimates within closer range of actual values.

## **Monitoring Item 36 Community Effects**

### **Forestwide Goal**

To produce Forest goods and services in the most cost efficient way consistent with providing net public benefits.

### **Purpose of Monitoring**

To report various social and economic indicators.

### **Results and Evaluation**

The results and analysis regarding this monitoring item are provided in chapter 3, section titled "Socioeconomic Report."

### **Forest Summary**

The appropriate time to evaluate changes in socioeconomic characteristics, the level of the Forest's contribution to the local economy and changes in lifestyles and attitudes would, at a minimum, be after 3 to 5 years of Forest Plan implementation.

## 5. FOREST PLAN APPEALS

Six timely appeals were filed on the Colville National Forest Land and Resource Management Plan. The status of those appeals is described below. All unresolved appeals (appellants 3, 4, and 5) are currently being reviewed in the Washington Office of the Forest Service and those appeal decisions are scheduled for spring 1991.

APPELLANT	ISSUES	STATUS
1. American Rivers, Inc.	<ol style="list-style-type: none"> <li>1. Failed to consider eligibility of streams that were not listed on National Park Service Rivers Inventory.</li> <li>2. Plan failed to establish detailed management standards to protect potential wild, scenic, and recreation rivers.</li> </ol>	<p>Settlement Agreement signed and appeal withdrawn.</p> <p>Colville Forest Plan Amendment #1, signed November 30, 1990 by Forest Supervisor Ed Schultz, was the product of that Settlement Agreement with American Rivers. Forest Plan Amendment #1 does not find additional streams eligible for inclusion into the Wild and Scenic Rivers System, but more specifically, defines management direction for national forest lands along the Kettle River or other streams determined to be eligible for inclusion in the future.</p>
2. Bead Lake Clean Water Association	<ol style="list-style-type: none"> <li>1. Plan does not provide adequate protection of water quality in Bead Lake.</li> <li>2. Plan does not provide an acceptable level of visual quality in the Bead Lake area.</li> <li>3. Management of increased recreational utilization.</li> </ol>	<p>Settlement Agreement signed and appeal withdrawn in December 1989.</p> <p>The provisions in the Settlement Agreement will be reflected in an upcoming Forest Plan Amendment that will address:</p> <ol style="list-style-type: none"> <li>1. Implementation of a water quality monitoring plan:</li> <li>2. For areas visible from the surface of the lake and the homes, forest management activities will, at a minimum, meet the visual quality standard of partial retention:</li> <li>3. Increased monitoring of recreational use around the lake; development of a recreation plan for the Bead Lake area prior to campground or boat launch development; and during development of a forestwide travel implementation schedule, the Forest will issue a closure order on Bead Lake trail, limiting motorized use to the trail only.</li> </ol>

## Forest Plan Appeals

APPELLANT	ISSUES	STATUS
3. Inland Empire Lands Council (IEPLC)	<ol style="list-style-type: none"> <li>1. Clearcutting</li> <li>2. Wildlife</li> <li>3. Water Quality and Fisheries</li> <li>4. Old Growth</li> <li>5. The Kettle Range</li> <li>6. Cumulative Impacts</li> <li>7. Allowable Sale Quantity</li> <li>8. Monitoring</li> <li>9. Threatened &amp; Endangered Species</li> <li>10. Budget</li> </ol>	<p>In December 1989, Appellants 3, 4, and 5 agreed to enter negotiations with the Forest Service and the other two appellants.</p> <p>A professional mediation firm was selected by consensus of all parties to provide mediation services and the Forest Service signed a contract with the firm for \$16,000.</p> <p>Negotiations took place from March through July. In July 1990, Forest Supervisor Ed Schultz formally ended the negotiation process in response to communication from the IEPLC representative recommending the negotiations not proceed.</p>
4. Northwest Forestry Association	<ol style="list-style-type: none"> <li>1. Forest Service arbitrarily and needlessly adopted final plan that will not provide sufficient timber outputs to maintain employment and income.</li> <li>2. Timber supply/demand analysis was flawed.</li> <li>3. Record of Decision misrepresents supposed conflicts between higher timber production and recreation and wildlife benefits.</li> <li>4. There was an inadequate consideration of alternative ways to coordinate various uses in harmonious fashion in violation of Multiple Use Sustained Yield Act of 1960.</li> <li>5. There was a misrepresentation of the results of public comments on the draft forest plan.</li> <li>6. Regional Forester's decision was an arbitrary political compromise.</li> </ol>	<p>In December 1989, Appellants 3, 4, and 5 agreed to enter negotiations with the Forest Service and the other two appellants.</p> <p>A professional mediation firm was selected by consensus of all parties to provide mediation services and the Forest Service signed a contract with the firm for \$16,000.</p> <p>Negotiations took place from March through July. In July 1990, Forest Supervisor Ed Schultz formally ended the negotiation process in response to communication from the IEPLC representative recommending the negotiations not proceed.</p>
5. Public Land Users Coalition	<ol style="list-style-type: none"> <li>1. Forest Service needlessly and arbitrarily adopted a plan that does not provide timber and range outputs and access for mineral exploration and development needed to maintain resource-based economy.</li> <li>2. Plan does not correctly display the potential economic and social impacts on local communities.</li> <li>3. Forest has adopted a plan that fails to harmoniously manage resources to maintain community stability and healthy environment when an available alternative would have done so.</li> <li>4. Excessively large acreages of roadless areas were set aside without examining environmental and economic tradeoffs.</li> <li>5. Forest Service has not objectively displayed and responded to public comment on the draft environmental impact statement.</li> </ol>	<p>In December 1989, Appellants 3, 4, and 5 agreed to enter negotiations with the Forest Service and the other two appellants.</p> <p>A professional mediation firm was selected by consensus of all parties to provide mediation services and the Forest Service signed a contract with the firm for \$16,000. Negotiations took place from March through July. In July 1990, Forest Supervisor Ed Schultz formally ended the negotiation process in response to communication from the IEPLC representative recommending the negotiations not proceed.</p>
6. John Swanson	<p>The Forest Plan is in violation of the National Forest Management Act, Endangered Species Act, Wild and Scenic River Act, Wilderness Act, and the Multiple Use Sustained Yield Act.</p>	<p>Appeal dismissed by the Chief of the Forest Service.</p>