PREFACE

This National Forest Land and Resource Management Plan (Forest Plan or Plan) was developed to direct management of the Colville National Forest. The goal of the Plan is to provide a management program reflective of a mixture of management activities that allow use and protection of the Forest resources; fulfill legislative requirements; and address local, regional, and national issues and concerns. To accomplish this, the Forest Plan:

- Establishes the management direction and associated long-range goals and objectives for the Forest for the next 10 to 15 years;
- Specifies the standards and guidelines and the approximate timing and vicinity of the practices necessary to achieve that direction; and
- Establishes the monitoring and evaluation requirements needed to ensure that the direction is carried out and to determine how well outputs and effects were predicted.

This Forest Plan has been prepared according to Secretary of Agriculture regulations (36 CFR 219) which are based on the Forest and Rangeland Renewable Resources Planning Act (RPA) as amended by the National Forest Management Act of 1976 (NFMA). The plan has also been developed in accordance with regulations (40 CFR 1500) for implementing the National Environmental Policy Act (NEPA). Because this plan is considered a major Federal action significantly effecting the quality of the human environment, a detailed environmental impact statement has been prepared as required by the NEPA. The Forest Plan represents the preferred alternative as identified in the Environmental Impact Statement (EIS) for the Forest Plan.

If any particular provision of this Forest Plan, or the application of the Forest Plan to any person or circumstances, is found to be invalid, the remainder of the proposed action and the application of that provision to other persons or circumstances shall not be affected.

Additional information about this Plan is available from:

Forest Supervisor
Colville National Forest
765 South Main
Colville, WA 99114

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CHAPTER 1

FOREST PLAN INTRODUCTION

PURPOSE OF THE FOREST PLAN

The Forest Plan guides all natural resource management activities and establishes management standards and guidelines for the Colville National Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management.

The decisions of the Regional Forester in approving a Forest Plan may generally be categorized as:

Establishment of forestwide multiple-use goals and objectives [36 CFR 219.11(b)];

Establishment of forest-wide standards and guidelines to fulfill requirements of NFMA applying to future activities (resource integration requirements of 36 CFR 219.13 to 219.26, and the requirements of 36 CFR 219.27);

Establishment of management area direction including management area prescriptions and standards and guidelines applying to future management activities in that management area [36 CFR 219.11(c)];

Establishment of allowable timber sale quantity and designation of suitable timber land [36 CFR 219.16 and 219.14];

Nonwilderness multiple-use allocations for those roadless areas that were reviewed under 36 CFR 219.17 and not recommended for wilderness designation;

Monitoring and evaluation requirements [36 CFR 219.11(d)]; and

Unless otherwise noted, project and activity level decisions specifically identified in the Record of Decision, Forest Plan, and adequately disclosed for NEPA purposes in the Forest Plan FEIS.

The Forest Plan embodies the provisions and the implementing regulations of the National Forest Management Act of 1976 and other guiding documents. Land use determinations, prescriptions, and standards and guidelines are a statement of the plan's management direction; however, the projected outputs, services, and rates of implementation are projections of that direction and are dependent on the annual budgeting process.

This Plan will guide Forest Service programs and activities on the Colville National Forest, beginning in 1989. It will ordinarily be revised on a ten-year cycle or at least every fifteen years. The Plan may be amended or revised sooner if the Forest Supervisor determines that conditions in the area covered by the Forest Plan have changed significantly.

RELATIONSHIP OF THE FOREST PLAN TO OTHER DOCUMENTS

FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

This Forest Plan sets the directions for managing the land and the resources of the Colville National Forest. The Plan results from extensive analysis and considerations addressed in the accompanying Final Environmental Impact Statement (FEIS), and Record Of Decision. The planning process and the analysis procedures used to develop this Plan are described or referred to in the FEIS. The FEIS also describes other alternatives considered in the planning process.

Specific activities and projects will be planned and implemented to carry out the direction in this Plan. The Forest will perform environmental analysis on these projects and activities. This subsequent environmental analysis will use the data and evaluations in the Plan and FEIS as its basis. Environmental analysis of projects will be tiered to the FEIS accompanying this Forest Plan.

REGIONAL GUIDE

The Regional Guide for the Pacific Northwest Region (June, 1984) provides direction for National Forest Plans. It includes standards and guidelines addressing the major issues and management concerns considered at the Regional level, to facilitate Forest planning.

PROJECT PLANNING

The Forest Plan serves as the single land management plan for the Colville National Forest. All other land management plans are replaced by the direction in this plan; see Chapter 5 for a listing of existing plans that this Forest Plan supersedes.

PLAN STRUCTURE

The Forest Plan document is composed of five chapters and appendices A through G.

Chapter 1 introduces the general purpose of the Forest Plan and the Plan structure, and explains how the Plan relates to the environmental impact statement and other documents. It also provides a brief description of the forest.

Chapter 2 includes summaries of the past management direction, which is all plan direction prior to this plan. It is represented by Alternative A and displayed in the FEIS.

Chapter 3 summarizes the issues and concerns and briefly explains how each was dealt with in the Forest Plan.

Chapter 4 is the heart of the Forest Plan. It sets the management direction for the Colville Forest for the next 10 to 15 years. This direction consists of resource management goals and objectives. The Forestwide Standards and Guidelines state the bounds or constraints within which all practices are to be carried out in implementing the Forest Plan. The desired future condition of the Forest describes what the Forest should look like after the implementation of the management direction. The management prescriptions and the standards and guidelines apply to each defined management area.

Included with resource management objectives are tables showing the projected levels of goods and services anticipated through plan implementation which will be used in developing work programs and budget requests.

Chapter 5 incorporates direction in the areas of implementation direction, which occurs through identification, selection and scheduling execution of management practices. It includes a monitoring and evaluation description to assure that these requirements are being met. Finally, it discusses the opportunities and procedures for amendment of the Plan.

The Acronyms and Glossary section of the FEIS includes terms found in this document. The Bibliography in the FEIS also applies to this document.

Appendices included are schedules of projected activities by resource.

FOREST DESCRIPTION

The Colville National Forest is in the extreme northeast corner of Washington State, between 30 to 90 miles north of Spokane. Canada borders the Forest to the north, the Okanogan National Forest to the west, Idaho and the Idaho Panhandle National Forests to the east, and the Colville Confederated Tribes Indian Reservation lies to the south of a portion of the Forest.

The Colville National Forest is within Pend Oreille, Stevens, and Ferry Counties and consists of over one million acres. These three counties are generally considered to be sparsely-settled, rural areas. The lumber and wood products industries dominate the economic scene. If Lincoln and Spokane Counties, which are in the area influenced by the Colville National Forest, are included, the area is a relatively populous region accounting for almost ten percent of the total state population. Major communities immediately adjacent to the Forest include Colville, Chewelah, Kettle Falls, Republic, Newport, Ione, and Metaline Falls.

Three distinctly different zones, each with its own unique climate, topography and vegetation, are created by the major river drainages. These are the Sanpoil-Curlew River Valleys, the Kettle-Colville-Columbia River Valleys, and the Pend Oreille River Valley. Topography is varied, ranging from rounded mountain slopes at lower elevations to high peaks and basins above 5,500 foot elevation.

Although a wide variety of resources exist, water, wildlife, timber, and recreation are considered the principal resources.

The forest tree species composition differs from other forests in eastern Washington. Ponderosa pine and Douglas-fir occupy the drier western portion, while western red cedar and hemlock dominate the moist, east side of the Forest.

Protection of mountain watersheds and maintenance of clean water are important management concerns since several communities are dependent upon streams originating on the Forest for their domestic water supply. Two industrial operations in the Metaline Falls area use water from the Forest. Many family-sized domestic water systems depend on Forest water sources, as do wildlife and livestock.

Dispersed activities, such as hunting, camping, picnicking and fishing, are popular recreation activities. About two-thirds of all recreation use is outside of developed campgrounds.

The Colville National Forest supports a wide variety of wildlife. It is considered one of the best deer hunting areas with the greatest white-tail population in the State. Mule deer, elk, moose and bighorn sheep are also hunted on the Forest. Mountain goats inhabit the Forest but are not currently hunted here. Some other wildlife of interest include black bear, cougar, bobcat, lynx, wolverine, fisher, red fox, hoary marmot, northern bog lemming, pika, golden eagle, osprey, turkey vulture, yellow shafted (common) flicker, and four species of chickadee (boreal, chestnut-backed, mountain and black-capped).

Rare sightings are made of the threatened grizzly bear and the endangered caribou, gray wolf and peregrine falcon. Bald eagles, threatened in Oregon and Washington, winter along the major rivers and a few nest in the vicinity, although, no nesting has been known to occur on the Forest.

Other unique and interesting biota occur on the Forest, including at least 29 sensitive plant species (see Appendix F, FEIS) and several invertebrates, some not previously documented for Washington State. Interesting invertebrates include the freshwater jellyfish (Craspedacusta sowerbyi), and the large mantled slug (Magnipelta mycophaga), previously known only from Montana and the Bitteroot Divide on the Idaho/Montana border.

CHAPTER 2

SUMMARY OF THE ANALYSIS OF THE MANAGEMENT SITUATION

INTRODUCTION

The Analysis of the Management Situation (AMS) is a description of the Forest's environment and an analysis of the Forest's potential to provide market and non-market resources and services. This analysis is a step in the forest planning process documented with other planning activities. The AMS:

—defined the maximum potential of the Forest to produce resource goods and services;

—evaluated the complementary and conflicting relationships between market and non-market outputs;

—analyzed the efficiency and implications of constraints placed on alternatives to meet legal requirements, policy or resource management requirements;

—identified the range within which alternatives could be developed; and

—determined if past management direction was satisfactory or if there was a need to change.

RESOURCE SUPPLY AND DEMAND PROJECTIONS

This section summarizes anticipated supply and demand conditions for forest goods and services for the Forest and Rangeland Renewable Resource Planning Act (RPA) time periods. To speak of supply-demand relationships for precommercial thinning or miles of road constructed, for instance, would be inappropriate. The appropriate consideration in the former case is sawtimber production. In the latter instance, it is roaded versus nonroaded recreation. Precommercial thinning, road construction, local area impacts, etc. are activities needed to produce goods and services and are, therefore, not discussed in this section.

"Demand" is used in Table 2.1 to identify a particular point or instant on a demand schedule. As such, it reflects an intersection at a particular point in time between a demand schedule (a list of willingness-to-pay values for various levels of offerings) and a supply schedule (a list of outputs the supplier is willing to offer at various prices).

Table 2.1 depicts those intersection points over time for certain forest goods and services. The projections portrayed in the table, like any projections, are expected to be less accurate in the distant future than in the near future.

The maximum production level displayed in Table 2.1 is the anticipated highest level of a particular output or use that could be produced over time considering legal and other requirements within the range of benchmarks and alternatives. Production under past direction (No Action-Alternative A) is that level of goods and services provided, as constrained by past budgets.

SURE TO LEAVE BLANK PAGES IN PLACE OF THIS TABLE.TOP AND BOTTOM IS DIFFERENT AND WOULD CHANGE THE WHOLE DOCUMENT IF NOT MOVED. BE THE FOLLOWING TABLE NEEDS TO BE MOVED FROM THIS DOCUMENT FOR PRINTING. THE MARGIN

Table Chapter 2 .1:Summary of Projected Supply and Anticipated Demand

TABLE 2.1
SUMMARY OF PROJECTED SUPPLY AND ANTICIPATED DEMAND
(Average Annual Units)

	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
RECREATION (MRVDs)					
Developed Recreation Use					
Past Direction	315	346	384	422	461
Maximum Developed Recreation **1/**	464	511	557	604	650
Forest Plan	365	401	442	486	534
Anticipated Demand	350	385	422	465	512
Dispersed Recreation Use					
Projected Roaded Recreation Use					
Past Direction	416	461	513	565	617
Maximum Roaded Recreation Capacity	1,369	1,369	1,369	1,369	1,369
Forest Plan	725	801	872	952	1,036
Anticipated Demand of Roaded Recreation **2/**	657	723	795	875	962
Projected Supply of Unroaded Recreation Use **3/**					
Past Direction	50	46	42	38	34
Maximum Unroaded Recreation Capacity	178	178	178	178	178
Forest Plan	121	133	144	157	170
Anticipated Demand of Unroaded Recreation **2/**	110	121	133	147	162
WILDLIFE (ANIMALS)					
Deer					
Projected Supply (No. animals based on habitat capability)					
Past Direction	16,600	14,900	16,600	14,900	10,700
Maximum Habitat Potential	19,600	19,600	19,600	19,600	19,600
Forest Plan	18,800	18,800	18,600	18,900	18,300
Available WFUDs	47,500	49,100	49,400	52,300	49,800
Anticipated Demand WFUDs	47,600	54,600	63,300	N/A	N/A
Elk					
Projected Supply (No. animals based on habitat capability)					
Past Direction	430	540	430	540	700
Maximum Habitat Potential	908	908	908	908	908
Forest Plan	540	720	850	1030*	1080*
Available WFUDs	7,800	8,050	8,100	8,580	8,180
Anticipated Demand WFUDs **4/**	8,250	9,450	10,950	N/A	N/A
Fish					
Resident Fish					
Projected Supply (Thousand pounds of Fish)					
Past Direction	76.6	75.6	75.2	74.8	74.4
Maximum Habitat Potential	N/A	N/A	N/A	N/A	N/A
Forest Plan	214.7	231.8	231.6	231.6	230.3
Available WFUDs (Thousands)	44.2	45.6	45.6	45.6	45.5
Anticipated Demand WFUDs(Thousands)	71.8	95.5	127.0	N/A	N/A
TIMBER (MMCF)					
Projected Supply					
Past Direction	24.4	24.4	24.4	24.4	28.1
Maximum Timber 5/	45.8	45.8	45.8	45.8	58.2
Forest Plan	28.7	28.7	28.7	28.7	34.0
Anticipated Demand 6/	25.2	32.8	32.8	36.0	36.0
LIVESTOCK GRAZING (MAUMs)					
Projected Supply					
Past Direction	27.0	27.0	27.0	27.0	27.0
Maximum Livestock Grazing **5/**	42.7	58.0	61.0	51.0	55.0

Forest Plan	35.0	35.0	35.0	35.0	35.0
Anticipated Demand **7/**	52.4	52.4	52.4	52.4	52.4

'MRVDs' denotes 'Thousand Recreation Visitor Days'
'MMCF' denotes 'Million Cubic Feet'
'WFUD' denotes 'Wildlife & Fish User Days'
'N/A' denotes data not available.
'MAUMs' denotes 'Thousand Animal Unit Months'

1/ Benchmark 8.
2/ Anticipated use includes all fish and wildlife WFUDs; non-game outputs are reported as RVDs.
3/ Unroaded recreation includes Wilderness use.
4/ Demand increased from 500 to 2,065 WFUDs in 5 yrs. = 626% decade. Continuing for another decade, 2930 WFUDs if supply could meet demands.
5/ Alternative C.
6/ Based on log consumption depicted on pages 5-9 and 5-10 of Colville National Forest Social Assessment (Envirosphere Company, July, 1981) and 1978 Washington Mill Study (Washington DNR, 1979). Projections of demand entail a myriad of interconnected factors--some of which can be reasonably estimated (for instance, population) and some which cannot (technological advancements, economic conditions, etc.).
7/ Anticipated demand is basically an expression of existing permit holders requesting an increase in AUMs and non-permit holders requesting grazing rights.

*Elk populations exceeding the maximum habitat potential are accommodated in the excess habitat not being utilized by deer.

RECREATION

A tremendous diversity of elevation, vegetation, and precipitation on the Colville National Forest results in an equally diverse variety of recreation uses and opportunities.

Recreation is heaviest in the summer and fall months, but occurs in all seasons of the year. Scenic highways and forest roads are attractive to visitors, and driving for pleasure is one of the most popular public recreation uses of the Forest. There are 32 campgrounds and picnic areas offering visitors a rustic camping experience for a few hours or for several days.

Because of its size, diversity, and accessibility, the Colville National Forest has physical capabilities to absorb recreation use any time of the year. Although recreation use is projected to increase steadily in the future, the Forest has so much to offer that crowding and shortages are expected to be only localized problems.

Developed Recreation

Developed Recreation Situation (Past Management) - The Forest provided developed facilities in a full spectrum of recreation settings. Table 2.2 indicates the kind and number of developed sites now in existence.

Table Chapter 2 .2Kinds and Numbers of Recreation Sites

TABLE 2.2

KINDS AND NUMBERS OF RECREATION SITES

Kind of Site	Number of Each
Observation	1
Boating	14
Campground, Family	22
Campground, Organized Group	1
Picnic Ground	9
Hotel, Lodge, or Resort	0
Organization Site	0
Other Recreation Concession	0
Recreation Residences	15
Winter Sports	1
Information	2
Trailhead	2
TOTAL	67

At the present time, there are 12 campgrounds where a user fee is being charged. This fee varies from $5.00 - $8.00 per day for individual family camp units. There are many multi-family units where the fee is adjusted according to the size of the unit and number of families it will accommodate.

The 49 Degrees North ski area offers a variety of skiing opportunities and challenges. It is generally considered a modest operation serving local users.

Production Potential - The ability of the Forest to produce a developed recreation supply is directly related to the potential to develop new facilities. The physical capacity for expanding or developing new sites is not limiting for the ten to fifteen years covered by this plan and should not limit the supply through or beyond the 50 year planning horizon.

The Forest Service objective for downhill skiing is to provide the opportunity for the private sector, through special use permits, to develop successful ski areas which enhance the total outdoor recreation spectrum for the general public. There are no potential downhill ski sites inventoried. There is interest and potential for additional capacity at 49 Degrees North Ski Area.

Demand - The developed recreation sites listed in Table 2.2 have a total site capacity of 6,134 people at one time (PAOT). Use of campgrounds and day-use areas is one of the most popular activities on the Forest, occurring mostly on weekends. The Forest currently has enough developed sites capable of meeting anticipated demand for the short term. In the future, new construction of both day use and overnight facilities will be needed to meet demand.

There still needs to be some campground expansion in localized areas, such as the Sullivan Lake Area, due to its popularity. Demand often exceeds capacity in these areas on weekends during the summer season. Other campgrounds throughout the Forest need upgrading with minor improvements to replace worn out facilities, accommodate today's equipment needs, and to improve administration.

Dispersed Recreation

Dispersed Recreation Situation (Past Management) - Dispersed recreation refers to those recreation activities that occur outside of developed sites such as camp or picnic grounds, resorts, and organization sites. It also includes such activities as camping in undeveloped areas, hiking, off-road vehicle use (ORV), fishing, hunting, horseback riding, mountain climbing, cross-country skiing, gathering firewood, gathering berries, boating, and driving for pleasure.

There are 367 miles of trails on the Forest, 41 of which are within wilderness. The Forest Service is currently working with users to develop trail bike routes, cross-country ski, and snowmobile routes. Use of trails by all types of users is steadily increasing. The planning and management of this trail system requires active participation by user groups.

Dispersed recreation outside of wilderness takes place in both a roaded and unroaded setting. Most of the above activities can be enjoyed in either setting, however, some users prefer either one setting or the other for their recreation pursuits. Often a recreationist will use both settings during a single visit. Table 2.3 compares the existing roaded/unroaded setting on the Forest in 1985 with the allocation setting contained in past management plans.

Table Chapter 2 .3:Existing and Planned Allocations

TABLE 2.3

EXISTING AND PLANNED ALLOCATIONS
(NET ACRES) UNDER PAST PLAN (No Action, Alternative A, FEIS)

1981 SETTING			PAST PLAN ALLOCATION	
SETTING	Acres	%	Acres	%
Roaded	857,544	78	976,787	89
Unroaded				
(Motorized)	59,007	5	0	0
(Non-Motorized)	147,836	14	87,600	8
Wilderness	30,613	3	30,613	3

The past management program allocations would retain 87,600 acres outside of wilderness in an unroaded ROS setting.

Roaded dispersed recreation would be available on 976,787 acres under past management allocations.

Production Potential - Demand for dispersed recreation will increase slowly over the next 50 years. Current recreation demand is low on the Forest. Table 2.1 displays the capacity the Forest has that exceeds the projected demand.

Demand - Table 2.4 indicates projected demand for dispersed recreation in terms of roaded, motorized, and unroaded/non-motorized uses.

The supply, however, will vary over time as the inventory shifts from an unroaded condition to a roaded condition. The Forest's current supply for roaded and unroaded, non-motorized recreation exceeds the projected demand through the year 2030. There is adequate land allocated to non roaded, motorized recreation to meet demand predictions, unless future biological evaluations determine that motorized use will adversely impact threatened and endangered species.

Table Chapter 2 .4:Dispersed Recreation

TABLE 2.4

DISPERSED RECREATION
(Projected Demand
In Thousands of Recreation Visitor Days)

	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Roaded					
Estimated Projected Demand	657.3	723.0	795.3	874.9	962.4
Unroaded Motorized					
Estimated Projected Demand	45.8	50.4	55.4	61.0	67.1
Nonmotorized					
Estimated Projected Demand	64.5	71.0	78.1	85.9	94.4

The preceding supply and demand figures are based on mathematical formulas and take into account length of stay, season of use, and space requirements of the different settings. However, some supply or demand elements are very difficult or impossible to quantify such as:

a. The availability of large unroaded areas whether used or not.

b. The availability of lakes in unroaded settings to the motorized user.

c. The availability of unroaded areas to large groups or organizations (group size is limited in the wilderness).

d. The availability of unroaded areas to commercial outfitters who depend on large groups for economic reasons.

WILDERNESS

Wilderness Situation (Past Management) - The Salmo-Priest Wilderness contains 39,973 acres and was designated wilderness in 1984. The Colville National Forest contains 30,613 acres with the remainder on the Idaho Panhandle National Forest.

Recreation Use within the Salmo-Priest has been averaging 1800 visits per year on approximately 41.5 miles of trails. This accounts for slightly over 2,400 RVDs per year over the past five years.

The Salmo-Priest has been divided into three management use zones to provide a variety of complementary physical and social settings. These management zones identify a range of acceptable conditions as identified in the Wilderness Recreation Opportunity Spectrum (WROS). The three WROS classes include semi-primitive, non-motorized 27,517 acres, primitive (trailed) 5,835 acres, and primitive (trail-less) 6,621 acres.

Production Potential - The majority of use is on one loop trail and presently does not meet the guidelines contained within the WROS guidelines for acceptable conditions. There are six small lakes (less than 3 acres) which presently receive low use because access is only by cross-country travel.

The recreation capacity within the wilderness is based on the maximum number of persons which can be supported by a WROS zone and still maintain a desired experience and protect the wilderness resource. Capacity has been determined to be, primitive (trail-less) 1,200 RVDs, primitive (trailed) 1,050 RVDs, and semi-primitive 6,600 RVDs..

Demand - Demand for wilderness recreation in the local area has been increasing by about one to two percent a year. Very few problems associated with recreation management within the wilderness are anticipated during the planning period. The projected use for the year 2030, by WROS zones, is primitive (trail-less) 1230 RVDs, primitive (trailed) 2790 RVDs, and semi-primitive, non-motorized 3980 RVDs.

WILDLIFE

Wildlife Situation (Past Management) - Wildlife habitat on the Colville National Forest ranges from relatively open, dry forest on the west side to more moist, closed forests on the east. Three hundred twenty-four (323) species of vertebrate wildlife occur on the Forest: 73 species of mammals, 234 birds, nine (9) reptiles, and seven (7) amphibians.

Big Game

Big game includes Washington's largest population of white-tailed deer and the state's only moose herd. Other big game on the Forest are mule deer, elk, mountain goats, Rocky Mountain and California bighorn sheep, black bear, and cougar. The elk, mountain goats, and bighorn sheep were introduced.

Deer - Northeast Washington has traditionally been known for its production of white-tailed deer in Stevens and Pend Oreille Counties, and mule deer in Ferry and Okanogan Counties. Large wildfires, around 1930, generated an abundance of browse which led to increasing deer populations.
These populations peaked in the mid 1950's, about 25 years after the burns, when the forest vegetation had recovered sufficiently to provide a balance between cover and forage.

Elk - Elk were introduced onto the forest. The population has steadily increased since l970 and was estimated at 380 individuals in l984. Elk are found on either side of the Pend Oreille River in Pend Oreille County and adjacent areas of Stevens County. Management emphasizes elk east of the Pend Oreille River and deer west of the river. The elk population on the east side is at carrying capacity and is presently stable.

Sheep and Goats - In l971, eight California Bighorn Sheep were released on the Republic Ranger District. In l985, the estimated population was 80.

In l972, 18 Rocky Mountain Bighorn Sheep were released on the Sullivan Lake District. The l984 population was estimated at 65. This herd is used as a source for introducing Rocky Mountain Bighorns into other areas.

Mountain goats have been introduced a number of times over the last twenty years on the Sullivan Lake Ranger District. The population is currently estimated at 40 animals.

Moose - Moose have been reported on every district of the Forest.

Black Bear and Cougar - Black bear and cougar are also game animals in Washington. Both are found throughout the Forest. Stevens, Pend Oreille and Ferry Counties lead all other eastern Washington counties in black bear harvest. Approximately half the cougar harvested in the State come from this area.

Small Game & Furbearers

Ruffed and blue grouse, and snowshoe hares are abundant on the Forest. Other small game include Franklin's grouse, mourning dove, common snipe, and waterfowl. Furbearers include beaver, muskrat, mink, river otter, long-tailed and short-tailed weasel, marten, fisher, wolverine, striped skunk, raccoon, bobcat, Canada lynx, and coyote.

Nongame

Eighty-three percent of the Forest's wildlife species are classified nongame. These include nesting populations of golden eagles and osprey as well as ten species of woodpeckers. Wildlife observation, photography, and other non-consumptive wildlife uses will continue to increase.

Threatened, Endangered, and Sensitive Species

The Colville National Forest has two threatened species, the grizzly bear and bald eagle; three endangered species, woodland caribou, gray wolf, and peregrine falcon; and eleven sensitive animals, the California wolverine, North American Lynx, California bighorn sheep, Townsend's big-eared bat, common loon, white pelican, Swainson's hawk, greater sand hill crane, long-billed curlew, redband trout, and bull trout. Forty-four sensitive plant species also occur in Northeastern Washington, twenty-nine of which have been documented on the Forest.

The grizzly bear was listed as threatened in 1975. The area considered to be occupied is divided into three "Grizzly Bear Management Units," all three of which overlap into the Idaho Panhandle National Forest.

Bald eagles winter along the larger rivers. No nests have been found on the forest; however, at least four are located within 30 miles.

The Selkirk Mountain Caribou Herd is the last natural free ranging herd of caribou to occupy the United States outside of Alaska. This herd was listed endangered in January, 1983, and the Colville and Idaho Panhandle National Forests, the respective States and the U.S. Fish and Wildlife Service are currently involved in an interagency recovery effort. Part of the recovery program is to augment the existing herd with animals of the same subspecies from other populations in British Columbia. During the past two winters, 48 animals from two other populations have been moved into Northern Idaho, where they have reestablished use of habitat within the historical range of the Selkirk Herd and from which the two herds will be able to inter-mix and interbreed.

Peregrine falcon have been reported in the vicinity only during the fall migration during the past two decades. Nesting is not known to occur on or near the Forest. Consideration is being given to introducing young peregrines into the area by "hacking" them onto a potential nest site on the Forest, in response to the Peregrine Falcon Recovery Plan.

Reports of individual wolves on the Forest indicate that they are wandering, lone animals. No reports of denning or pack activity have been received.

Production Potential - Production potential for wildlife on the Forest is directly related to habitat quality and quantity. Habitat improvement projects are designed to maintain or increase the dispersal or population level of a given species. Current big game populations are estimated at 18,490 deer and 300 elk, which translates to 19,285 deer equivalents. Under this plan, habitat capability would be expected to increase to 20,274 deer equivalents in the first decade and to 21,195 in five decades. This can be translated into 18,830 deer and 540 elk after 10 years, and 18,305 deer and 1,080 elk after 50 years.

As the number of elk, relative to deer increases, the number of deer will decrease. An elk requires two and two-thirds times as much food as a deer, and on this Forest, where browse is the main forage on winter ranges, competition between deer and elk is more direct than might be expected on better elk ranges.

Demand - Demand for certain wildlife game species is high. In 1980, 2,995 deer and 18 elk were taken by hunters. A ten percent increase in the number of deer harvested is projected by the year 1990, based on anticipated hunter success ratios and state population growth. Within 20 years the demand for deer is expected to be 26% higher than in 1980, exceeding the habitat capability by 11 percent. The demand will always be expected to be greater than the supply because areas where hunting is good attract the hunters. As quality factors (such as the success ratio) drop in an area, the demand will decline until an adequate supply is restored in the area. Elk hunting is not as popular in northeast Washington as in other parts of the state because the elk population is small and the dense forest is cause for limited success. Because success is low, some trophy bulls are taken, which combined with the roadless areas in which to hunt, makes a quality hunting experience. Events over the past few years, however, indicate the response of demand to increased potential for success. The area west of the Pend Oreille River received little elk hunting and few elk were taken there prior to the season being opened for either sex in that area in 1983. During 1983 and 1984, hunting in the Pend Oreille herd increased and harvest more than doubled, making the 1980 base year, used for projections of supply and demand for other wildlife, invalid for elk harvest.

FISHERIES

Fisheries Situation (Past Management) - There are 7,505 miles of streams on the Colville National Forest. Three major rivers, the Columbia, Pend Oreille, and Kettle, flow through the area. Of the three, the Kettle is the only free flowing river; the Columbia and Pend Oreille have been impounded by hydroelectric dams. Prior to construction of Grand Coulee Dam, anadromous fish traveled up the Columbia, Sanpoil and Kettle Rivers. Kettle Falls was a traditional Indian fishing area on the Columbia River.

Approximately 494 miles of streams on the Forest are fishable. Forty-five lakes, totaling 3,562 acres, support fish. An additional 15 Forest lakes do not support fish.

The list of fish for northeastern Washington includes 39 species, 22 of which inhabit Colville National Forest waters. Of 13 species of game fish, the trouts are most common and make up the major sport fishery. The major fish species found on the forest are listed below:

Largemouth Bass	Lake Trout
Brown Bullhead	Black Crappie
Cutthroat Trout	Rainbow Trout
Eastern Brook Trout	Silver Trout (Kokanee)
German Brown Trout	Yellow Perch
Ling (Burbot)	

Production Potential - There are 45 fishable lakes on the forest and 494 miles of streams suitable for angling. Roughly 76,600 pounds of catchable fish (greater than six inches long) are currently produced on the forest, based on projections from RIM reports for the amount of time spent angling. Under this plan the production of catchable fish in streams is expected to greatly increase. This will be the result of correcting past habitat degradation while developing and improving fish habitat and fish species composition through cooperation with the Washington Department of Wildlife. Larger fish would be expected to be produced in streams where, currently, most never reach six inches in length.

Demand - In 1980 approximately 32,600 recreation visitor days on the Forest were attributed to cold water fishing, and warm water fishing is increasingly popular. In 1986, recreation days for fishing were estimated at 53,965, a 65% increase over 1980.

To meet a portion of the demand, the Washington State Department of Game has fish planting programs in streams and lakes. Due to the high demand for fish, the maintenance, rehabilitation, and enhancement of fish habitat is of primary concern to the public, tribes, and Federal, State, and local government agencies.

The Washington Department of Wildlife, the Colville Confederated Tribes and the Upper Columbia United Tribes are all implementing fisheries enhancement projects in waters immediately downstream from the Colville National Forest.
All have expressed concern for the potential of forest management on the Colville to degrade or negate the benefits of these programs. The Forest recognizes the efforts of these and local private groups and has planned for protection and maintenance of water quality from the National Forest.

RANGE

The Colville National Forest currently produces 146 million pounds of forage. All of this forage is available for wildlife use; however, no more than 50 percent of the available forage should be used. The remainder should be left to protect the plants and the environment in which they grow.
The useable forage available for wildlife and livestock is 73 million pounds. This converts into 92,140 animal unit months (AUMs) of forage (780 lbs. of forage = 1 AUM). Of these AUMs, 39,170 are available for livestock use and 52,970 are available for wildlife use.

Range Situation (Past Management) - Over the past decade average livestock grazing has been 35,000 AUMs, while 57,140 AUMs have been available for use by wildlife. This far exceeds the needs of projected wildlife populations.

To permit livestock grazing at or above the current level, more range improvement structures with more cooperator participation in construction and maintenance would be necessary to maintain vegetative condition in the long term. Considering past funding levels reflected in the No Action Alternative livestock grazing would be constrained to 27,000 AUMs to retain forage in its existing condition over the long term.

Production Potential - The Colville National Forest can produce 161 million pounds of forage under this Plan. Useable forage produced for wildlife and livestock is 81 million pounds. This forage is the equivalent of 101,000 animal unit months' (AUMs) grazing. Of

the total available, 55,000 AUMs of this forage is available for wildlife and livestock use, and 46,000 AUMs of this forage is suitable and available for wildlife use. The maximum wildlife requirements would approximate 40,000 AUMs under this Plan. With consideration given to resource, legal, and other requirements, the maximum livestock production potential is in the range of 42,700 (Decade 1) to 61,000 (Decade 3) animal unit months.

The primary variable affecting this potential is temporary range created through vegetation manipulation (timber harvest.)

Demand - Current demand for livestock grazing was computed in 1982 at 52,400 animal unit months. This is based on requests for increases of permitted grazing by both existing and new applicants. Due to major economic adjustments occurring in the industry, it is doubtful if this demand still exists.

Accurate prediction of economic strength in the livestock industry is difficult at this time. Current trends in livestock prices, import levels, and consumer consumption remains at or near historic levels. Because range outputs can be adjusted upward quickly with more improvements, we have the ability to meet changes in demand through the plan review process.

TIMBER

Timber Situation (Past Management) - The mixture of tree species on forested lands within the Colville National Forest varies greatly based on many physical and biological factors (i.e. soil type, aspect, elevation, precipitation, and past fire history). In terms of standing timber volume, Douglas-fir is the principal tree species. Western larch, ponderosa pine, Engelmann spruce, subalpine fir, and lodgepole pine also contribute substantially to the standing volume on the Forest. A major factor affecting current volume growth and timber availability on the Colville is the large acreage burned in the 1920's and 1930's.

Approximately 80.7 MMBF (18.6 MMCF) was harvested from the Colville National Forest in 1978 which amounted to approximately 29 percent of the volume consumed by mills in Ferry, Lincoln, Spokane, Stevens, and Pend Oreille Counties (Washington DNR, 1979). In 1983, 84.1 MMBF (19.56 MMCF) of timber was harvested on the Forest, amounting to approximately 23 percent of the total volume processed by mills in the same five-county area (Washington DNR, 1985). Annual harvest volumes for the five counties from 1974 through 1979 averaged 381.0 MMBF (Kitto. et al., 1981). (A more indepth discussion of this information can be found in Chapter III of the FEIS accompanying this document). In 1983, harvest in this area was approximately 382.8 MMBF (Washington DNR, 1985). The average annual harvest of the Forest between 1976 and 1985 was 79.9 MMBF (19.5 MMCF). In 1987, 121.6 MMBF was sold, and the annual harvest was 116.7 MMBF.

The majority of the standing timber inventory is composed of species that are converted to dimension lumber (i.e. 2x4's, 2x6's, and studs). Under current management direction (1965 Timber Management Plan, as amended), 115.4 MMBF per year ("chargeable," see Table II-4, FEIS) would be offered for sale from the Forest.

Production Potential - Of the 1,096,020 acres of the Colville National Forest, 70 percent are tentatively suitable for timber production. The following table gives a breakdown of acreages suitable and unsuitable for timber management.

Table Chapter 2 .5:Land Tentatively Suitable for Timber Production

TABLE 2.5
LAND TENTATIVELY SUITABLE FOR TIMBER PRODUCTION
(Acres)

	Not Suited For Timber Production	Totals
I. Total National Forest Area		1,361,555
Other Ownership		265,536
II. Net National Forest		1,096,020
A. Water	256	
B. Non-Forest (Not covered with 10% tree cover)	56,811	
C. Lands developed for other than timber production purposes (powerline clearing, improved roads, special uses)	25,218	
III. Forested Lands		1,013,735
A. Withdrawn from scheduled timber production:		
1. Wilderness	26,606	
2. Research Natural Areas	1,621	
3. Other (Old growth, wolf addition, campgrounds, 49 Degrees North Ski Area, Administrative Sites, etc.	17,494	
SUBTOTAL	45,721	
B. Lands which lack assurance of restocking. 1/		
1. Lands classified as unsuitable	126,571	
2. Lands classified as suitable		192
3. Lands classified as separate suitability component	0	
C. Irreversible resource damage	384	
D. Regeneration Difficulty	69,810	
E. Regeneration difficulty classed as separate suitability component	0	
IV. Tentatively Suitable Forest Land		771,057
V. Total of Suitable and Non-Suitable Lands	324,771	771,248

1/ There is not reasonable assurance that such lands can adequately be restored as provided in 36 CFR 219.27(c)(3). Previously lands in this category were described as growing less than 20 cu. ft./ac./yr.

Demand - Demand projections for wood products are very complex. Generally, these projections are based upon past activities. In recent history there have been two distinctly different trends in demand for wood products. The period between 1976 and 1982 was characterized by rising inflation rates and buyers were optimistic about good returns on investments in the housing market. However, during the short period between 1982 and 1985 housing starts declined drastically and inflation rates lowered. Currently, a trend appears to be developing that shows the housing market increasing slowly.

However, these fluctuations in national timber market conditions have really had little effect on annual timber harvest levels in eastern Washington in the period from 1964 to the present. Annual harvest figures, as presented in the Washington State D.N.R Timber Harvest Report, display a very stable level of harvest in the five county region (Ferry, Lincoln, Spokane, Stevens, and Pend Oreille) of Northeastern Washington (1966-1986 average annual harvest = 358.3 MMBF; 1977-1986 average annual harvest = 355.4 MMBF).

Over the decade 1977-1986, an average of 22.3 percent of the volume harvest recorded in the 5 county area has come from the Colville National Forest. (1977 = 20.3 percent; 1981 = 15.5 percent; 1984 = 28.5 percent; and 1986 = 21.8 percent)

During the past decade, the harvest volume from the Colville National Forest has ranged from 44.8 MMBF to 102 MMBF. Several factors can be viewed as having played a role in this wide fluctuation in annual 1984 harvest level. Locally, during this time period, several mills had change ownership and experienced periods of suspended operations when they did not buy offered timber. Also during this time period the Forest was reducing offered sales of mixed conifer stands to encourage the harvest of the extensive areas of beetle infested lodgepole pine. The last major factor effecting harvest levels was the National Forest timber "buy-out" legislation was being discussed (and subsequently enacted) so purchasers were not eager to harvest sold timber sales.

When calculating future demand projection for wood products it is necessary to identify potential future markets as well as observing past trends. The major identifiable point of notice in the future is the construction of the Ponderay Newsprint Mill in Usk, Washington. It is estimated that the mill will consume approximately 100 MMBF of whitewood chips annually. Eighty percent of these will be provided by mill residue from the surrounding area. The remaining twenty percent will come from submerchantable roundwood material. The Forest is anticipating a demand for about 7.5 MMBF of submerchangable roundwood material from Forest land.

Two methods of calculating future demand based on past harvest are shown below:

1. Future demand is equal to past harvest volumes **sold** during the last decade (1977-1986) plus Ponderay Newsprint: 91.3 MMBF per year + 7.5 MMBF = 98.8 MMBF (24.1 MMCF per year).

2. Future demand is equal to the average volume **harvested** over the past decade (1977-1986) plus Ponderay Newsprint: 77.8 MMBF per year + 7.5 MMBF = 85.3 MMBF (20.8 MMCF per year).

The first method uses the amount of timber sold per year. These figures have remained fairly constant over the decade despite the fluctuations in the market. The second method is based on the volume that is actually harvested from National Forest timber sales. Sold volume averages about 13.5 MMBF average volume over the average harvest level. This volume is assumed to be the amount of demand needed to speculate on future timber market conditions.

Harvest data for 1987 and the first half of 1988 indicate a considerably higher harvest levels than the averages from the last decade, (1987 = 129.2 MMBF, and the first half of 1988 = 52.8 MMBF). If 1987 data were included in the decade averaged, the average harvest would go up to 83.1 MMBF.

Demand for timber from the Colville National Forest System lands is expected to rise during the next decade. This is due to the amount of current cutting being done on private lands in Eastern Washington, and the fact that almost all young timber, under 100 years old, is being cut. In 1983, cutting off private lands yielded 47 percent of the total volume in the five county area, from 65 percent of the total area harvested. In the same year, timber harvest on Colville National Forest System lands yielded 23 percent of the total volume from only 9 percent of the total acres harvested. Timber supply from private lands is anticipated to slow substantially during the next decade.

Timberlands in the private sector are not expected to regain their full supply potential for another 40 to 50 years. During this time period the Forest is anticipated to be a major source for a relatively stable supply of wood fiber.

Another factor affecting demand for timber from the Colville National Forest is softwood lumber imports from Canada. Lumber from British Columbia, Canada can currently be imported at a lower cost than local producers can manufacture it. Recent import agreements between the United States and Canada are expected to reduce the volume of Canadian softwood lumber imported. This will in turn transfer demand to local sources, including the National Forest.

The draft Forest Plan for the Okanogan National Forest, and the final Forest Plan for the Idaho Panhandle National Forest, both indicate a drop in future sale quantities. This drop in supply will cause an increase in demand for the volume that is offered from the Colville National Forest sales.

Nationally, as well as in Eastern Washington, recent trends toward a stronger housing market is anticipated to increase demand for timber from the Colville National Forest.

Projections indicate a drop in supply from non-National Forest lands of 30 to 40 percent. In addition, anticipated demand for timber from the Colville National Forest will be 30 percent greater in 20 to 30 years and increase another 10 percent in 40 to 50 years. This again is due to a drop in supply of private, non-industrial timber (Pacific Northwest Regional Commission). Based upon this discussion, the two methods for assessing future demand, as previously displayed, are conservative. Actual demand for timber from the Colville National Forest may be higher and is estimated to be 25.2 MMCF (Decade 1) in Table 2.1.

INFORMATION NEEDS

This section lists the information, inventory and research needs that have been identified for the Colville National Forest. This recognizes gaps in data or scientific knowledge that would be desirable to fill prior to preparation of the next Forest Land and Resource Management Plan.

The concept used to organize and develop these needs recognizes that biological, physical and socio-economic ecosystems are the foundation for the planning process.

This comprehensive framework is intended to encourage interdisciplinary approaches rather than the traditional functional approach to resource management planning process.

Of the many ecosystems found in wildlands, several were identified as having particular current importance in forest planning. Old growth, riparian/aquatic, upper slope ecosystems, and human interactions within the Forest environment are examples where more information would be desirable to test planning assumptions as future plans are developed.

Information needed to address these concerns fall into five general categories: interaction/processes, long-term productivity, cumulative effects, socio-economic, and wildland-community relations.

INTERACTIONS/PROCESSES

This category includes information leading to a better understanding of interactions within and between ecosystems, effects of one resource on others, and the physical, biological, social, and political processes that influence these interactions and resources.

- Refine recreation carrying capacity estimates by development of predictive model figures for recreation opportunities outside developed sites.

- Clarify the relationships between recreation settings, use, and opportunities and other resource uses.

- Survey streams for native fish. Determine occurrence, distribution, and status of westslope cutthroat trout, rainbow or redband trout, bull trout, species of sculpins, and other native fish.

- Improve knowledge of the distribution and habitat requirements of wildlife associated with old-growth forests.

- Understand the relationships between old growth characteristics and ecological and visual diversity, associated plant and wildlife species, and the maintenance of natural gene pools.

- Assess the effects of landscape patterns of timber harvest and road construction on biological diversity (including management indicator species) and stability of special habitat areas such as Research Natural Areas.

- Determine the effects of vertebrate species on other ecosystem components (e.g., effects of bears on plantations; effects of insectivorous birds on forest insect populations).

- Assess effects of stream segmentation by barriers caused by road crossings, debris, etc., on fish production potential.

- Improve data on grizzly bears within areas of development in the Selkirk Grizzly Bear Ecosystem. Assess impact of disturbance from logging, hiking, hunting, and motor vehicles.

- Assess fish productivity of various stream and lake habitats, and the effects of management activities on fisheries potential. Determine sediment types and levels that effect fish habitat components.

- Verify stand characteristics required to provide snow intercept thermal cover for big game.

- Assess the results of stream rehabilitation projects on fish population dynamics, public perception of landscape and recreation quality, stream hydrology, etc.

- Develop effective methods of unevenaged management to produce optimized resource benefits.

- Develop strategies that minimize soil disturbance and compaction during harvesting.

- Develop silvicultural techniques for managing pathogen and insect populations.

- Identify specific sites and situations where natural regeneration can be a successful management option.

- Evaluate the costs and benefits (both monetary and non-monetary) of alternative logging residue treatments.

- Develop effective techniques for reforesting areas with harsh climates, steep terrains, and/or competing vegetation.

- Develop data base (inventory) and analysis techniques to identify sites that are uneconomical to manage for timber production given the anticipated variation in production costs and price.

- Increase knowledge of site/moisture relationships in harvested areas (microwatersheds).

- Develop a predictive methodology for sediment production and soil productivity for use in project-level planning.

- Identify key soil chemical or physical factors which might be monitored to determine significant impairment of long-term productivity.

- Improve total tree biomass information that is needed to evaluate whole-tree harvesting practices.

- Develop a drainage specific predictive model for fisheries and the effects of habitat modification.

LONG-TERM PRODUCTIVITY

This section includes studies leading to better understanding of ecosystem needs in order to maintain various aspects of long-term productivity.

- Determine user (visitor) needs and expectations for recreation opportunities.

- Identify potential nest sites and territories for bald eagles and perigrine falcons in accordance with their respective recovery plans.

- Evaluate habitat of mountain caribou including opportunities for improvement of caribou habitat through vegetation management. Verify existing guidelines for human activity, timber harvesting, and road access.

- Inventory wildlife habitats: riparian, wetlands, old growth forests, snags and lodgepole pine by biological, chemical, and physical characteristics.

- Assess importance of seral vegetation in maintaining long-term site productivity for dependant species.

- Determine the amount and distribution of in-stream woody debris necessary to maintain the productivity of fish habitat.

- Determine the effects of forest fragmentation on ecosystem integrity and function, including viability of vertebrate species.

- Determine the effects of management practices on the incidence and severity of pathogens and insects as they affect the condition of the Forest over time.

- Develop local yield studies for principal timber species growing in managed conditions.

- Evaluate the effects of soil compaction on long-term productivity.

- Assess the effects of certain harvest practices and residue treatments on long-term productivity.

- Understand the role of fire in the nitrogen and carbon cycles that maintain long-term productivity.

- Identify the current productivity levels of resources such as timber, wildlife forage, and fish habitat to establish baseline levels of productivity.

CUMULATIVE EFFECTS

This section includes studies to examine the cumulative effects of naturally occurring and human-induced activities on various aspects of selected ecosystems and resources.

- Develop indicators or criteria to predict when recreation user patterns may change as a result of intensive forestry practices.

- Determine wildlife and fish species reactions to patterns of habitat created or altered by management and natural succession.

- Develop a drainage specific predictive model for fisheries and the effects of habitat modification.

- Determine the effects of human disturbance and livestock competition on wildlife species.

- Assess the potential effects of predation of management indicator species on each other in small fragmented habitat units (e.g. is predation by marten and barred owls detrimental to pileated woodpecker populations in limited habitat?).

- Evaluate the effects of planting genetically-selected stock on stand growth and yield, pathogen and insect population dynamics, forage nutritional quality for wildlife, etc.

- Determine the cumulative effects of timber management activities (timber harvest, road construction, and site preparation) on water quality and stream stability and fish habitat.

- Develop threshold of sediment production for cumulative effects on the soil and water resource considering the value of the water and the uses associated with the water.

- Evaluate the cumulative effects on soil productivity by ground-based timber harvest equipment under unevenaged management strategies.

- Evaluate the effects of fire exclusion on the structure and function of ecosystems.

SOCIAL-ECONOMIC ANALYSES

Additional studies are needed to increase our understanding of the economic and social effects of many planned wildland activities.

- Measure and predict the effects of changes to wildland landscapes on recreational values, both in economic and social terms.

- Understand the effects of long-term changes in site productivity for a range of resources on local and regional economies.

- Evaluate the relative costs of strategies aimed at managing the effects of pathogens and insects on stand growth and yield, recreation values, water quality, etc.

- Evaluate decision processes that can compare market and nonmarket benefits.

WILDLAND-COMMUNITY RELATIONS

The relations and interactions between wildlands and the human communities within and around them need to be better understood.

- Evaluate the patterns of resource theft and develop techniques for reducing such losses to acceptable levels.

- Develop vegetative strategies that reduce risk of wildfire and recognize adjacent community values and concerns.

Chapter 3 CHAPTER 3

RESPONSE TO ISSUES, CONCERNS, AND OPPORTUNITIES

INTRODUCTION

A major step in the development of this Plan was the identification of issues, concerns, and opportunities related to management of the Colville National Forest. Through a scoping process, nine primary issues, concerns, and opportunities were identified for the Proposed Land and Resource Management Plan. After public review of the Proposed Plan, these issues, concerns, and opportunities were slightly modified to reflect public input. Two additional issues, which had previously been dropped because they were considered not of widespread public interest, were added to the list of significant issues, concerns, and opportunities after the review.

In this chapter these issues are summarized and a brief description of their disposition in this Plan is provided. The reader is encouraged to read Chapter I and Appendix A of the FEIS for a more detailed description of these issues, concerns, and opportunities.

FOREST ISSUES AND CONCERNS

How can the Forest influence community economics?

Employment and receipts generated by National Forest uses and products are important to local economics. This issue is closely related to the timber management issue as timber harvest has a greater influence on the local economy than any other National Forest resource.

Commentors on the Proposed Forest Plan specifically were concerned about out-decade timber supply, and many felt a more diversified output from the Forest would solve community economic concerns.

Response to the Issue - This plan provides for a seven percent increase in the allowable timber sale quantity from the previous timber management plan (32 percent increase from historic sell levels 1978-1988); retains AUM outputs at historic levels; and emphasizes investments in recreation and fish and wildlife as an overall strategy to address this issue. If fully implemented, this Plan could result in increased jobs and increased returns to the Federal treasury and local counties (estimations of these effects are contained in Table 4.1 of this Plan).

How should the Forest manage the existing roadless areas?

This issue has to do with how much of the roadless areas should be retained in an undeveloped condition. Many of these roadless areas have the potential to supply a variety of outputs ranging from non-motorized recreation opportunities to the production of timber. The public is divided over how these areas should be managed in the future.

The public response to the Proposed Forest Plan reflected the lack of a consensus over this issue. Specific areas like the Kettle Crest, Abercrombie-Hooknose, Salmo B, and Thirteenmile had the most interest for retention as undeveloped. Some felt that the issue was closed with passage of the Washington State Wilderness Act.

Response to the Issue - This Plan provides for the designation of: 84,247 acres as MA 11, with a semi-primitive non-motorized recreation emphasis; 11, 967 acres as MA 3B with a semi-primitive motorized and non-motorized recreation and wildlife emphasis; and 13,973 acres as MA 10 which has a semi-primitive

motorized recreation emphasis. This Forest Plan direction provides for roadless demand while retaining levels of other amenity and commodity output.

How much timber should the Forest harvest?

Timber production plays an integral role in the economics of local communities. The wood products industry provides employment in logging, manufacturing and related occupations.

Timber harvest also makes the most direct impact on many of the other resources and uses of the Forest. As a result, there is a continuing issue over what level of harvest is appropriate given the importance to local economies and the importance of recreation, wildlife, watershed, and other resources.

Responses to the Proposed Forest Plan keyed on projected timber short-fall in the area in outyear decades and also on the opposition to clearcutting, especially in visual areas, riparian and certain wildlife habitats, and impacts of timber harvest on other resource values.

Response to the Issue - This Plan allocates approximately 615,600 acres to timber production, which constitutes 80 percent of all lands identified as tentatively suitable for timber production. From a portion of these lands, the plan proposes to harvest approximately 28.7 million cubic feet (123 million board feet) annually during the first decade. This represents an increase of about seven percent compared to the existing Colville National Forest Timber Management Plan. Harvest levels increase in this plan to a level of 34 million cubic feet in the fifth decade.

Uneven-age management is emphasized in management areas 2 (caribou habitat), 3A (recreation), 5 (foreground/middle ground, scenic timber areas), and 6 (foreground/middle ground scenic winter range). In addition, uneven-age management is now prescribed for Class I, II, and III stream riparian areas.

How can the Forest provide a variety of recreation experiences?

Another issue identified is what mix of recreation opportunities should the Forest provide. The Colville National forest provides a wide variety of recreation opportunities ranging from highly structured types (e.g., 49 Degrees North Ski Area) to the primitive types that can be found in the Salmo-Priest Wilderness. This variety of recreation experiences is important to the local and regional residents.

Recreation received the largest number of comments to the Proposed Plan overall, and the public interest was very diverse. In addition to support for expansion of 49 Degrees North, retention of Sullivan Lake airstrip, and concern over other site-specific areas like Bead Lake, there was an overall message that more should be done in trail management, and protection for dispersed sites and recreation values.

The State of Washington was also concerned about the long-term supply of backpacking areas and balance in the final plan.

Response to the Issue - In addition to the 30,600 acres of primitive types of recreation opportunities provided in the Salmo-Priest Wilderness, this plan will provide an additional 85,247 acres of recreation opportunities in an unroaded, semi-primitive/non-motorized setting (Management Area 11). An additional 13,973 acres will be provided in semi-primitive/motorized areas (Management Area 10). Approximately 11,967 acres will be provided in semi-primitive/motorized and unmotorized and unmotorized area (Management Area 3B).

Approximately 913,000 acres of recreation opportunities in a roaded setting will be provided. The setting for this recreation opportunity is modified through management activities such as timber harvesting and road construction. These opportunities will occur in roaded areas with other than roaded recreation emphasis. Timber harvest yields are not reduced on these acres because of recreation objectives.

Approximately 33,000 acres of recreation opportunities in a roaded natural setting will be provided by this plan. These opportunities are provided along heavily traveled roads and include the developed campgrounds such as Sullivan Lake and Little Gillette Campground.

The trails program has been expanded and now provides for 12 miles of trail construction annually in the first decade, and 14 miles of reconstruction. Management area adjustments have been made to address site-specific areas (e.g., Bead Lake and Z Canyon).

How should the Forest maintain wildlife and fish populations?

Wildlife management is an important recreational and economic issue. The issue is what level of emphasis should the Forest place on maintaining or improving habitat for all wildlife species. This issue focuses primarily on deer and elk winter habitat and maintenance of habitat to support viable populations of all native species.

Public response to the Proposed Forest Plan indicated high interest in wildlife and fisheries with most commentors supporting more emphasis on wildlife and fisheries habitat or expressing concern over future conditions for this resource. Responses on this resource were the most diverse; areas of emphasis included: concern over road impacts; protection of riparian habitat; concern over wildlife harassment; and, concern over old growth habitat.

Response to the Issue - Deer and elk habitat management will be emphasized on about 90 percent of the inventoried deer and elk winter range. Deer and elk populations are projected at 18,800 and 540 animals for the first decade. Species dependent upon mature and old-growth forest habitats will diminish, but will be maintained at viable populations. Marten habitat will be provided throughout the Forest. Riparian habitat will be managed more intensively and timber harvest in that zone will be by uneven-age management systems.

Newly constructed project roads will, in most cases, be closed after use and open-road densities on winter ranges will be limited.

How should the Forest manage threatened and endangered wildlife habitat?

Threatened and endangered wildlife species known to inhabit the Forest include the grizzly bear, bald eagle, and woodland caribou. No nest sites for the bald eagle are known to exist on Forest land.

The woodland caribou and grizzly bear have gained national attention in recent years. Forest management is currently attempting to maintain habitats necessary to provide for recovery populations of these species.

At issue is how to manage the habitats for these three threatened and endangered species in order to ensure their continued existence.

Respondents to the Proposed Forest Plan who mentioned threatened and endangered species were concerned over management of all identified caribou habitat; bald eagle direction; and the lack of direction for sensitive plants.

Response to the Issue - Through implementation of the Forest management direction contained in Chapter 4 of this Plan, all management activities will protect the habitat values needed for these wildlife species, and also for sensitive plants.

How should the Forest manage the visual resource?

The Colville National Forest contains a variety of landscapes with about 40 percent of these being visible from roads, trails, or other high-use areas. Some 80 percent of the Forest gives the appearance of a natural or near-natural landscape with limited effects of management activities. At issue is which areas should be emphasized for visual resource management.

Respondents to the Proposed Forest Plan were particularly concerned over the impact of clearcutting on the visual quality of the Forest, especially in critical viewsheds along major travel routes.

Response to the Issue - This Plan provides that all inventoried viewsheds be managed for their scenic qualities. In addition to providing unaltered (preservation) visual quality levels on 34,200 acres, this plan will provide natural-appearing or slightly altered (retention and partial retention) settings on about 508,800 acres. Moderately and heavily altered settings (modification and maximum modification) will be provided on 552,700 acres. Uneven-age timber management will be emphasized on foreground and middle ground seen areas along major travel routes.

How will the Forest provide a continuing source of clean water?

Water is an important resource that is derived from the National Forest. Uses of this water include such things as fish production, recreation, domestic livestock, and domestic water

systems. Forest Service management activities can influence the water resource. The greatest influence is through ground disturbing activities such as timber harvest and road building. Livestock grazing, road maintenance, and recreation activities may also influence water quality.

Public response on the Proposed Forest Plan emphasized concern over high quality lakes, the impact of timber harvest, and roads on water quality, cumulative effects, and domestic water supplies.

Response to the Issue - Implementation of this Forest Plan will result in a potential increase in sediment yield produced by timber harvest and road construction. The effects of this increase will be reduced through mitigation measures that are developed and implemented on an individual project basis (See Appendix G, FEIS). In addition, the water resource will be protected through the implementation of Federal and State laws and the Forest Plan direction contained in Chapter 4 of this Plan including Riparian and Watershed Standards and Guidelines (e.g., uneven-aged management will be used along Class I, II, and III streams).

How should the Forest protect historical and archaeological resources?

An issue identified in the planning process is the protection of cultural resource. The Forest has been surveying for and recording cultural resources for several years as part of its obligations under section 106 of the National Historic Preservation Act. Forest Service developmental activities such as road construction and timber harvesting have the potential to unknowingly destroy cultural resources without the opportunity to gather important historical information. Inventories conducted prior to ground disturbing activities provide an opportunity to identify additional cultural sites. Sites discovered during this process, in turn, provide the opportunity for interpreting the cultural heritage of the forest.

Most responses to the Proposed Forest Plan referred to Indian cultural areas in the vicinity of Thirteenmile and White Mountains.

Response to the Issue - This Forest Plan will continue the identification and evaluation of cultural resources. Priority will be given to completing inventories and evaluations of those areas and sites where management activities are scheduled. Inventory of areas not directly effected by proposed activities, such as in wilderness, will be accomplished as the areas of priority survey are finished. Significant sites will be nominated to the National Register of Historic Places.

Following identification and evaluation of sites, long term management proposals are developed using a case-by-case analysis. Such management may involve protection and long-term maintenance, developmental or interpretive uses, adaptive uses, scientific studies, or data recovery.

Consultation with the Colville Confederated Tribes, Spokane Tribe of Indians, and the Kalispel Tribe will continue as required by the American Indian Religious Freedom Act.

What is the appropriate level of livestock grazing?

Prior to receiving public opinions on the Proposed Land and Resource Management Plan, this issue was thought to be of little public interest. But, concern expressed during the public review periods about potential negative impacts upon riparian vegetation, water quality, conflicts with wildlife, spread of noxious weeds, and the economic benefits of grazing has revitalized the issue of range use on the Colville National Forest.

Demand for permitted grazing is approximately equal to the current permitted grazing levels.

The amount and location of grazing on the Forest as well as protection of other resources from damage and the economic feasibility of grazing are at issue.

Response to the Issue - Historic levels of livestock grazing will be permitted; however, riparian area management will be more intensive as indicated in Range and Riparian Standards and Guidelines, Chapter 4.

How will the road system be managed?

The issue of effects of transportation system development upon wildlife and other amenities was a concern expressed by the public during the public review period. This issue was also identified in the Proposed Plan as not having widespread public interest.

Concerns about the road development include fears that road construction and use will cause damage to wildlife and sensitive plant habitat. On the other hand, recreationists and commercial users of the forest feel roads should be provided to maximize opportunities for motorized recreation and timber harvest.

Response to the Issue - Road system management will include closure of all newly constructed project roads after use, unless otherwise justified in a site specific analysis. Further direction is included in Chapter 4, Transportation Standards and Guidelines.

CHAPTER 4

FOREST MANAGEMENT DIRECTION

OVERVIEW

This chapter presents the management goals, objectives, standards and guidelines that constitute direction for resource management covered by this plan. This chapter is organized as follows:

Forest Management Goals
Forest Management Objectives
Forestwide Standards and Guidelines
Desired Future Condition of the Forest
Management Prescriptions

FOREST MANAGEMENT GOALS

The overall goal of this plan is to provide a strategy or framework for quality management of the Colville National Forest which is responsive to the needs of the public and which provides for the maximum public net benefit within the context of multiple use. Specifically, for this planning period, the goal is to emphasize wildlife habitat management and recreation while at the same time providing relatively high outputs of timber and other commodity and amenity resources sustained over time. Specific resource/use goals include:

Recreation - Provide for a broad spectrum of developed and dispersed recreational opportunities which meet public demand.

Scenic Resources - Provide Forest visitors with visually acceptable scenery, consistent with the management use and public demand.

Trails - Provide a trail system adequate to meet day and overnight use demand for all different classes of trail users.

Wild and Scenic Rivers - Maintain and protect those characteristics, of the segment of the Kettle River flowing through the Forest, which make the river eligible for inclusion in the Wild and Scenic River System.

Cultural Resources - Protect and preserve significant prehistoric and historic sites, structures, and objects for the future enjoyment and education of the public.

Wilderness - Preserve the natural conditions and outstanding opportunities for solitude in the Salmo-Priest Wilderness Area.

Wildlife - Provide and manage for a diversity of habitats sufficient to maintain viable populations of all vertebrate species, and populations adequate for the consumptive and non-consumptive demands of the public.

Range - Provide forage for wildlife and livestock use in quantities to meet the objectives of the wildlife program and to contribute to the stability of the local livestock industry.

Threatened, Endangered, and Sensitive Species - Provide and manage habitat of threatened, endangered, and sensitive species in an aggressive manner which contributes to the eventual removal of the species from the threatened, endangered, or sensitive status.

Fisheries - Provide a diversity of high quality aquatic habitats which insures viable populations of fish in sufficient numbers to meet angler demands.

Timber - Provide for the sustained production and utilization of wood fiber in the various product forms, consistent with the multiple-use objectives of the Forest Plan.

Soil - Maintain or improve continued long-term soil productivity.

Water - Provide for the continued supply of high quality water which meets established standards.

Riparian - Provide and manage for riparian plant communities which maintain a high level of riparian dependent resources.

Lands - Achieve a land ownership pattern that improves resource management and administration, and provide for uses that are in the public interest and cannot be provided on private land.

Transportation - Provide for safe, efficient, and environmentally acceptable access to Forest lands.

Minerals - Provide opportunities for continuing exploration, development, and production of mineral resources.

Economic and Social - Produce forest goods and services in the most cost efficient way consistent with providing net public benefits. Generate revenues from permits, leases, user fees, and product receipts.

Human Resources - Provide equal opportunities for employment on and use of the Forest to people regardless of race, color, creed, sex, marital status, age, handicap, religion, or national origin.

Protection - Provide cost efficient fire protection and law enforcement integrated with other resource management objectives.

FOREST MANAGEMENT OBJECTIVES

This section lists the objectives of the Plan in Table 4.1 (Summary of Projected Resource Outputs, Environmental Effects, Activities, and Costs). These projected outputs are then discussed in a narrative form. It is important to remember that the outputs are projections that are based on available inventory data and assumptions and that they are subject to the annual budget. The projected outputs identified below serve as objectives for the Plan period (16 USC 1602) and are useful projections beyond ten to 15 years. The projection of outputs (goods and services) and activities beyond the Plan period, although required by law, does not legally bind the Forest to action beyond the plan period since the Forest is required to revise the Plan at least every 15 years.

MARGIN AND DIFFERENT AND WOULD CHANGE THE WHOLE CHAPTER IF LEFT IN.
LEAVE TWO BLANK PAGES IN ITS PLACE.

TABLE 4.1
FOREST PLAN RESOURCE OUTPUTS, ENVIRONMENTAL EFFECTS, ACTIVITIES, AND COSTS
(Average Annual Outputs)

OUTPUTS AND EFFECTS (Units of Measure)	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Developed Recreation Use (1000 RVDs)	365	401	442	486	534
Non-Wilderness Dispersed Recreation Use (1000 RVDs [includes WFUDs])					
Roaded	725	801	872	952	1036
Unroaded	119	130	140	151	162
Wilderness Use (1000 RVDs)	2.4	3.3	4.5	6.0	8.0
Trail Construction/Reconstruction (Miles)	26	17	5	5	5
Developed Site Construction/Reconstruction (PAOT)	354	45	45	45	45
Visual Quality Objectives (1000 Acres)					
Preservation	34.2	34.2	34.2	34.2	34.2
Retention	164.5	164.5	164.5	164.5	164.5
Partial Retention	344.4	344.4	344.4	344.4	344.4
Modification	552.7	552.7	552.7	552.7	552.7
Management Indicator Species **1/** (Habitat Capability)					
Grizzly Bear (number)	6	10	10	10	10
Caribou (number)	33	33	33	33	33
Deer:					
Mule & White-tailed (number)	18,800	18,800	18,600	18,900	18,300
Barred Owl (Pairs)	73	61	60	58	65
Pileated Woodpecker (pairs)	319	269	262	254	283
Northern Three-toed Woodpecker (number)	1149	967	941	1018	1018
Elk (number animals)	540	720	850	1030	1080
Marten (number)	431	362	353	343	382
Wildlife Habitat Improvement (Acres/Structures)	1925/1140	2150/1425	2150/1425	2150/1425	2150/1425
Fish Habitat Improvement (Acres/Structures)	11/84	16/95	16/95	16/95	16/95
Range - Permitted Grazing (1000 AUMs)	35.0	35.0	35.0	35.0	35.0
Range - Structural Improvements/Fences (Miles)	5	5	4	4	6
Range - Structural Improvements/Water Developments (Number)	10	10	10	10	10
Range - Nonstructural Improvements (Acres)	1127	1155	1097	1182	1125
Allowable Sale Quantity **2/** (Million Board Feet)	123.4	---	---	---	---
Allowable Sale Quantity (Million Cubic Feet)	28.7	28.7	28.7	28.7	34.0
Fuel Wood (1000 Cords)	179.9	205.0	121.2	134.6	134.1

Reforestation: Planted/Natural Regeneration **3/** (1000 Acres)	4.2/2.8	3.8/2.4	3.8/2.8	2.7/2.2	4.2/2.7
Timber Stand Improvement (1000 Acres)	8.2	3.4	4.2	6.4	6.6
Timber Growth (Million Cubic Feet)	19.9	10.1	43.4	27.3	41.6
Water Yield (1000 Acre Feet)	981	990	990	1000	1000
Sediment (Tons/Year Index)	10,279	10,785	Not Estimated for Decades 3-5	Not Estimated for Decades 3-5	Not Estimated for Decades 3-5
Improved Watershed Condition (Acres)	12	13	13	13	13
Minerals - Operating Plans **4/**	150	160	180	200	220
Energy Minerals **5/** (Billion BTUs)	0	363	1079	2139	3608
Non-Energy Minerals **5/** (Million $)	4.6	4.6	5.0	5.5	6.0
Arterial and Collector Road Reconstruction (Miles)	10.0	15.0	20.0	20.0	20.0

TABLE 4.1 (Continued)

OUTPUTS AND EFFECTS (Units of Measure)	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Bridges (Structures)	1.1	2.1	1.4	.4	.6
Timber Purchaser Road Construction/Reconstruction (Miles)	98	99	108	108	108
Roads Suitable for Public Use **6/** (Miles)					
Passenger Car (current 849)	849	849	849	849	849
High clearance Vehicle Only (current 2500)	2500	2500	2500	2500	2500
Roads Closed to Public Use (Miles) (current 396)	1126	1636	1786	1786	1786
Total Forest Road (Miles)(current 4745)	4745	4985	5135	5135	5135
Total - National Forest Budget (Million $) 7/	17.5	16.0	14.6	16.0	16.0
Returns to Government (Million $)	12.6	15.2	14.4	10.5	20.2
Human Resource Program (Thousand Person Years)	225	Not estimated	Not estimated	Not estimated	Not estimated
Changes in Jobs **8/** (Change in Number)	+671	Not estimated	Not estimated	Not estimated	Not estimated
Changes in Income **8/** (Change in Total M$)	+9.7	Not estimated	Not estimated	Not estimated	Not estimated
Payments to Counties (Million $)	3.3	3.4	3.6	2.6	5.6

OUTPUTS AND EFFECTS (Units of Measure)	Decade 1	Total
Acreages of Available Timber Harvest Prescriptions **9/** (Thousand Acres)		
Clearcut	4.2	
Shelterwood 10/	2.8	
Uneven-aged Management	1.7	
Lands Tentatively Suitable for Timber Production (1000 Acres)		771.2
Lands Suitable for Timber Production (1000 Acres)		615.6
Long-Term Sustained Yield Capacity (Million Cubic Feet)		39.7

"RVDs" denotes "Recreation Visitor Days"
"WFUDs" denotes "Wildlife & Fish User Days"
"AUMs" denotes "Animal Unit Months"
"BTUs" denotes "British Thermal Unit"

1/ Grizzly bear and mountain caribou are projected numbers of animals; other species are habitat capability.
2/ First decade harvest in millions of board feet from FORPLAN solution. Board foot harvest for subsequent decades calculated from FORPLAN estimates of cubic foot volumes using board foot to cubic foot conversion ratio of 4.1.
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, Notices 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 2.2 MM dollars for Job Corps Center.
8/ Changes in number of jobs are presented as change from current conditions, and were estimated only for the first decade.
9/ Harvest systems may be applied subject to specific resource objectives and management opportunities identified during project planning.
10/ Shelterwood includes only the seed cut.

***Note to reviewers: A column with Activity Codes is to be added.**

RESOURCE SUMMARIES

This section summarizes the resource outputs and schedules by program area. These resource summaries are supplemented by appendices. The appendices are not direction but are annually updated lists of information. In contrast, the resource program summaries are direction statements and, unless results of monitoring drive a different decision, will not change.

Recreation Program

Table 4.2 shows the average annual activities necessary to provide the recreation opportunities and conditions.

Table Chapter 4 .2:Average Annual Recreation Activities

TABLE 4.2

AVERAGE ANNUAL RECREATION ACTIVITIES

Activity	Unit of Measure	Number
Campground Reconstruction or Expansion	Camp Units	20
Developed Site Operation	PAOT* days	757,600
Trail Reconstruction & Construction	Miles	26
Viewshed Plans		Plans 1

* "PAOT" Denotes "Persons At One Time".

Portions of the Profanity, Bald-Snow, Twin Sisters, Hoodoo, South Huckleberry, Abercrombie-Hooknose, Harvey Creek, Grassy Top, Salmo-Priest A, and Salmo-Priest B Roadless Areas will be managed to provide high quality semi-primitive/non-motorized and semi-primitive/motorized recreation opportunities. The primary management activities in these areas over the next decade will be maintaining and reconstructing necessary trails, and installation and maintenance of facilities necessary for resource protection or to maintain or enhance recreation opportunities. Outfitter-guide operations necessary to take advantage of recreation opportunities in these areas may be permitted.

Selected scenic viewsheds will be managed to provide high quality roaded natural recreation opportunities by maintaining high to moderate visual quality levels. The primary management activity in these areas over the next decade will be to coordinate with other resource programs (particularly the timber sale program) to assure that adopted visual quality levels are maintained. In addition, viewshed corridor plans will be prepared in order to better schedule management activities to meet viewshed objectives. Facilities necessary for resource protection will be installed and maintained.

Forest Service developed recreation sites which will receive emphasis over the next decade are fee campgrounds and trailheads. The primary management activities in these sites will be to upgrade facilities to the appropriate site development level and standard, and to complete vegetation management plans. Additional fee site opportunities and opportunities to utilize the private sector to reduce operation and maintenance costs will be explored.

The 49 Degrees North Ski Area will continue to be operated by the private sector through the next decade.

Cross-country skiing, snowmobiling, and other winter sports opportunities will be provided. The Forest will continue to cooperate with Spokane, Stevens, and Ferry Counties to permit snowmobile trail grooming.

The physical, social, and managerial setting in recreation management emphasis areas will be monitored to assure that recreation attributes that facilitate the desired opportunity class are being protected. Sample field contacts will be made with visitors to identify their needs and expectations. Off-road vehicle use will be monitored to assure that significant resource damage and/or conflicts with non-motorized users do not occur.

Coordination will occur with the U.S. Department of Interior; (National Park Service and Fish and Wildlife Service); Colville Confederated Tribes; State of Washington; (Department of Wildlife, Department of Natural Resources, Department of Parks and Recreation, and Office of Archeological and Historical Preservation); and other agencies to insure that recreational activities are compatible with the plans and policies of these agencies.

For a schedule of recreation projects, refer to Appendix A of the Forest Plan.

Cultural Resources

The goals of the Cultural Resource Program are to identify, protect, and enhance the values of the cultural properties on the Forest. It does so through a process which includes inventory of project as well as non-project areas, evaluation of all sites, protection of significant sites, and enhancement of selected sites. Significance is determined through consultation with the Washington State Historic Preservation Officer according to the criteria established by the National Register of Historic Places.

The cultural resource inventory is driven primarily by the Forest's project schedule where ground or site disturbing activities are proposed, such as timber sales, land exchanges, road or trail construction, recreation site development, mining activities, and renovation or disposal of historic structures. These activities reveal a considerable quantity of cultural properties for evaluation, or further consideration. At the same time, known sites, not necessarily in areas of project activity, are evaluated on an incidental basis, or when conducive to furthering other agency objectives such as public education efforts, or scientific endeavors. Forest areas, such as wilderness, or units amenable to study such as watersheds, will be scheduled for inventory and subsequent treatment of identified cultural resources when the Forest's project schedule for at least a three year period is accomplished. Maintenance, protection, and interpretation of selected properties will be an ongoing endeavor.

Normally, inventory occurs prior to ground disturbance and before the approval of the project, thus allowing time for redesign of the project to avoid and protect significant cultural sites. However, due to the nature of the ground cover in many areas of the Forest, many sites may only be discovered after ground disturbance has commenced. Contract clauses protect those cultural resources discovered during project implementation. However, the nature of cultural resource inventory is also changing as a result of the ground cover and consequent difficulty in discovering some sites. In the future, inventory should include more systematic shovel testing in sensitive areas prior to project implementation and more monitoring during and after ground disturbance has begun.

Wilderness Program

The Salmo-Priest Wilderness will be managed to preserve the wilderness character of the area and administered to provide such uses consistent with the Wilderness Act of 1964 and the Washington State Wilderness Act of 1984. The occurrence of caribou and grizzly bear, endangered and threatened species, in this Wilderness Area will affect its management and use.

The Forestwide Standards and Guidelines, and Management Prescription 9 provide detailed management information. Overall management actions will reduce the presence and/or the impacts of human activities within the Wilderness. Necessary trails will be reconstructed and unnecessary ones obliterated. The principles implied in the questions "Is it required for management of the area as wilderness?" and if so, "Is it the minimum tool necessary to accomplish the job?" will guide the project work done by Forest Service personnel.

An implementation schedule for the Salmo-Priest Wilderness will be completed. This schedule will contain specific action items needed to follow Forest Plan direction, including; prioritization of action items, identification and establishment of unit or individual responsibility, and establishment of target dates for completion.

The physical, social, and managerial settings within the Wilderness will be monitored to assure that wilderness attributes are maintained above Region Six guidelines. Degradation of key resources will not be permitted. Principles of "Limits of Acceptable Change" (i.e. the amount of human-caused change allowed in selected ecological and social factors within wilderness which would not result in loss of the wilderness character) will be utilized in managing the Wilderness.

An overall capacity for wilderness visitor use has been estimated. During the next decade, this capacity estimate will be reviewed and refined to enable the managers to be more geographically specific. Visitor use tends to concentrate in certain areas, and at some point capacity could be reached in localized areas, necessitating management action, while the overall area remains well below capacity.

The Crater Lake fishery will be converted to cutthroat trout, native to the area. Stocking of Crater and Gypsy Lakes with native species by helicopter will continue.

For a schedule of wilderness projects, refer to Appendix A, of this Plan.

Wildlife, Fisheries, and Threatened and Endangered Species Program

The wildlife and fisheries program on the Colville National Forest: (1) coordinates with timber management and other resource activities, identifies opportunities for mutually beneficial projects, monitors effects of forest management activities on fish, wildlife, threatened, endangered and sensitive plants and animals and recommends measures to mitigate adverse effects; (2) surveys habitats on the Forest for condition and trend, plans for habitat maintenance and improvement and carries out those planned projects, coordinates Forest habitat management and programs with the Washington Department of Wildlife (the agency directly responsible for fish and wildlife within the state); (3) maintains records of threatened, endangered and sensitive species occurrence and activity within the Forest and adjacent areas in cooperation with the Washington Department of Wildlife, Idaho Department of Fish and Game, and the U.S. Fish and Wildlife Service, works closely with those agencies and universities to determine the habitat needs of threatened, endangered and sensitive species, inventories their habitats within the Forest, participates on technical committees and recovery teams and works to meet recovery objectives and maintenance of recovered populations.

Protection and management of fish and wildlife habitat is, in part, to maintain the habitats described under Goals and Desired Future Condition in this Chapter. This will generally be accomplished through coordination with timber management and other resource functions. Coordinating direction for fish and wildlife under the pertinent Management Area Prescriptions and implementing the Monitoring Plan are also necessary parts of the Fish and Wildlife Program. Habitat maintenance and improvement projects anticipated over the first five years are displayed in Appendix B of this Plan. Additional projects or units of those projects already identified will be added as the need is recognized.

Management indicator species were chosen to provide habitat needs of all vertebrate species, to monitor selected habitats that could become limiting to some species through forest management activities, and to provide sufficient populations of selected species to meet demands for wildlife-related recreation.

Table 4.3 (Management Indicator Species) displays indicator species, the habitat represented by them, and the reasons (indicated by number in parenthesis) for their selection:

Table Chapter 4 .3:Management Indicator Species

TABLE 4.3
MANAGEMENT INDICATOR SPECIES

Species	Reason Selected and Habitat Represented
Grizzly Bear	(1) Specific habitat components and seclusion.
Caribou	(1,2,4)Specific habitat components
Big Game	(2,3) Winter Range.
Blue Grouse	(2,3) Winter habitat - mature trees or clumps of trees along ridgetops. Nesting habitat - open forest with grass/shrub understory at lower elevations.
Franklin's Grouse	(2,3) Young lodgepole pine with interspersed mature spruce.
Northern Three-toed Woodpecker	(2,4) Mature lodgepole pine or subalpine fir.
Pileated Woodpecker	(2,4) Mature and old growth forest in Douglas-fir or cedar/hemlock working group. Large snags and logs.
Woodpeckers	(2,4) Special habitat component, snags.
Barred Owl	(2,4) Lower elevation mature and old growth forest.
Marten	(2,3,4) Mature & old growth mesic conifer forest, down trees at moderate to high elevations.
Beaver	(2,3,4) Aquatic and riparian, aspen or willow.
Large Raptors/Great Blue Heron	(2) Nest trees.
Northern Bog Lemming	(2,4) High elevation bogs.
Trouts	(2,3,4) Lacustrine, riverine & riparian.

"(1) endangered and threatened plant and animal species identified on state and federal lists for the planning area; (2) species with special habitat needs that may be influenced significantly by planned management programs; (3) species commonly hunted, fished, or trapped and (4) additional plant or animal species selected because their population changes are believed to indicate effects of management activities on other species of a major biological community or on water quality." (NFMA 219.12)

The Endangered Species Act (P.L. 93-205, Section 7) requires that, "each Federal agency shall, in consultation with and with the assistance of the Secretary [of the Interior, represented by the U.S. Fish and Wildlife Service Office of Endangered Species], insure that any action authorized, funded or carried out by such agency ... does not jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected states, to be critical ...." This requires the Colville National Forest to do extensive habitat inventories, cumulative effects analyses, and consultations on any proposed actions within the identified range of the Selkirk Mountain caribou herd, the grizzly bear, bald eagle and other threatened or endangered species that may be influenced by such actions. It is further the policy of the Forest Service to insure that no activity of the agency causes any species to become threatened or endangered.

Recovery plans for threatened and endangered species found on the Forest are followed as primary direction for recovery and management of those species. Supplemental Forest Guidelines are developed to provide specific direction for management of essential habitats and coordination with other Forest management activities. (See Appendices H and I, FEIS.) Reintroductions into the Selkirk Mountains of caribou from a herd or herds of the same race (ecotype), to augment the existing population will be undertaken (USDA Forest Service Environmental Assessment, 1985; Summerfield, 1985). There is no proposal within this plan to introduce grizzly bears or wolves onto the Forest. Grizzly bears or gray wolves inhabiting the Forest that are determined to be nuisance animals, may be captured and relocated to another area within the Forest (Idaho Dept. of Fish and Game, et al., 1984; USDI Fish and Wildlife Service, et al., 1986). Reintroductions of bald eagles and/or peregrine falcons may be used, under this plan, to meet recovery objectives for those species.

Habitat Capability Objectives for selected species or Management Indicator Species Groups are displayed on Table 4.4. The 1980 level was the preplanning base year and is assumed to be the current level.

Table Chapter 4 .4: Habitat Capability Objectives

TABLE 4.4

HABITAT CAPABILITY OBJECTIVES

Species or Group	Habitat Capability Objective
Deer	120% of 1980 level
Elk	118% "
Forest Grouse	100% "
Waterfowl	110% "
Beaver	105% "
Snag Dependent	60% of population potential throughout lands from which timber is harvested; 100% of potential on other Forest lands (see Desired Future Condition, this chapter).
Old-Growth Species	Sufficient suitable habitat to insure viability of all species dependent on these habitats and to maintain a diversity of climax ecosystems across the Forest. 73 pairs of barred owls (1st decade)
Trout	Maintain or improve habitat. Emphasize native species.
Caribou	30 animals.
Grizzly Bear	12 animals.
Bald Eagle	4 potential nesting territories.
Pileated Woodpecker, Marten, Northern Three-toed Woodpecker	As described under Forestwide Standards and Guidelines in this Chapter.
Large Raptors and Great-blue Heron	Protect existing nesting habitat and maintain at least 75% of the 1980 habitat capability.
Northern Bog Lemming	100% of the 1980 level.

Range Program

During the next ten years forage will be available for utilization by livestock on 327,500 acres of the Forest. This will provide grazing for 35,000 animal unit months (AUMs) of permitted livestock use. A shift in use areas will begin to occur as less efficient allotted areas and areas of low need will be phased out for use by domestic livestock. Intensive grazing will occur on the most efficient areas. Extensive management in the areas which are needed, but not cost efficient, will be practiced.

Conflicts of livestock use with timber production, riparian values, and developed recreation will be minimized to acceptable levels by coordination of grazing restrictions in conflict areas. Use will also vary by management area with the timber/forage area receiving the heaviest grazing use as contrasted with more restrictive use prescribed in the recreation and wildlife oriented management areas.

Monitoring of trends in use and demand and unforeseeable resource conflicts will be used to establish a level of permit issuance at the end of the current term grazing permit period.

The range improvement program, consisting of approximately 500 acres of fertilization for oxeye daisy control, 630 acres of other noxious weed control, five miles of fencing and nine water developments will be conducted annually to implement the above management program.

See Appendix D of this Plan for the five year Forest range improvement program.

Timber Program

Timber Productivity - Existing forest stands are typical of those found in other areas of Northeast Washington, Northern Idaho, and Western Montana. There is a wide diversity of species present. The species which are currently of the highest value are Douglas-fir and western larch which are used for dimension lumber. Other important species include ponderosa pine, Engelmann spruce, lodgepole pine, subalpine fir and other associated species.

Site productivity on the Forest is high, with growth of over 85 cubic feet per acre per year possible on many of the sites.

Age classes can be divided into four broad groups: 15 to 20 percent of the suitable land area is occupied by stands 1 to 40 years of age; 20 percent of the area is occupied by stands 40 to 80 year age; 30 to 35 percent of the area are stands 80 to 120 years old and the remaining stands are greater than 120 years of age.

Land Suitability - There are 1,096,020 acres on the Colville National Forest, including 82,285 acres which are classified as non-forest. The non-forest lands include water, lands with less than 10 percent tree cover, and lands developed for other uses such as power lines and roads. Of the 1,013,735 acres which are forested, 45,721 acres have been withdrawn from timber production and another 196,765 acres have been found to be physically unsuitable. The 45,721 acres withdrawn from timber production include the Salmo-Priest Wilderness, existing Research Natural Areas, and developed campgrounds. The 196,765 acres that are physically unsuitable include areas where irreversible damage would be likely if timber production was attempted and areas where regeneration would be difficult. These reductions in the forested land base result in 771,249 acres being tentatively suitable forest lands (See Table 4.5).

The 771,249 tentatively suitable acres are reduced by an additional 155,632 acres that are not appropriate for timber production, resulting in a net of 615,617 acres of suitable forest land. The reduction includes 95,438 acres that preclude timber harvesting because they are devoted to semi-primitive non-motorized or motorized recreation, old growth or proposed Research Natural Areas. An additional 60,194 acres are presently not cost efficient for timber production.

The 60,194 acres that are not cost efficient were assigned to the minimum level management category in the FORPLAN run for the Forest Plan. There is no scheduled timber harvest from these acres; timber sales are limited to salvage or treatments necessary to protect other management objectives. Some of the acres in this category include stagnant or overstocked stands, which are described in the Vegetation Section of Chapter IV, FEIS. Although it is not the intent to treat the acres that are not cost efficient, economic factors could change during the Plan period. If factors changed enough to make these acres cost efficient, they could be treated, but only after appropriate modification to this Forest Plan.

Table Chapter 4 .5: Acres of forest Land Capable and Suitable for timber Production

TABLE 4.5
ACRES OF NATIONAL FOREST LAND CAPABLE AND SUITABLE FOR TIMBER PRODUCTION

Classification	Acres
1. Non-Forest Land 1/	82,285
2. Forest Land	1,013,735
3. Forest Land Withdrawn from Timber Production 2/	45,721
4. Forest Land Physically Unsuitable	196,765
Irreversible Damage Likely (384)	
Unsuitable Lands (126,571) 3/	
Lands That Cannot Be Restocked in 5 Years (69,810)	
5. Tentatively Suitable Forest Land 4/	771,249
6. Forest Land Not Appropriate for Timber Production	155,632
Cost Efficiency 5/ (60,194)	
Multiple Use Objectives 6/ (95,438)	
7. Unsuitable Forest Land 7/	398,118
8. Total Suitable Forest Land 8/	615,617
9. Total National Forest Land 9/	1,096,020

1/ Includes water, lands not covered with 10% tree cover, and lands developed for other than timber production purposes (e.g. power lines, improved roads).
2/ Includes areas such as the Salmo-Priest Wilderness, existing Research Natural Areas, developed campgrounds, Management Requirement old growth areas, and Forest Service administrative sites.
3/ There is not reasonable assurance that such lands can adequately be restocked as provided in 36 CFR 219.27(c)(3). Previously lands in this category were described as growing less than 20 cu./ft./ac./yr.
4/ Item 2 minus items 3 and 4.
5/ Tentatively suitable acres assigned to "minimum level" in the FORPLAN model solution.
6/ Forested lands allocated to management that precludes timber harvesting and not included in another classification. (Semi-primitive non-motorized recreation, semi-primitive motorized recreation, old growth, and Research natural Areas).
7/ The sum of items 3, 4, and 6.
8/ Item 5 minus item 6.
9/ Item 1 plus item 2 or items 1, 7, and 8.

Based on the forgoing discussion and Table 4.5, there are 615,617 acres available for scheduled timber harvest.

Silvicultural Management Direction - As a result of public comment on the proposed Forest Plan and Draft Environmental Impact Statement (DEIS), timber management practices have been changed from principally even-age systems to a more balanced use of both even and uneven-age systems. Table 4.6 summarizes the Silvicultural Management Direction by Management Area. Direction is presented only for those Management Areas (MAs) where timber harvest is permitted; 2, 3A, 5, 6, 7, and 8. Timber harvest is not scheduled in MAs 1, 3B, 3C, 10, or 11. Harvesting timber on those areas may be allowed for special purposes, such as hazard reduction, visual quality enhancement and maintenance, wildlife habitat improvement, or to curb insect and disease activity. Timber activities are not allowed in MAs 4 and 9. Refer to the Management Prescriptions for detailed management objectives for each MA.

TABLE 4.6
SUMMARY OF SILVICULTURAL MANAGEMENT DIRECTION
FOR SUITABLE LANDS 1/

MGMT AREA	MANAGEMENT EMPHASIS	MANAGEMENT DIRECTION
2	Caribou Habitat	Uneven-age management on late winter early winter, and late summer/rut habitat Even-age on spring and summer habitat
3A	Recreation	Uneven-age management systems will be used to support the visual and recreation goals.
5	Scenic/Timber	Uneven-age management will be emphasized in the seen area of foreground and middleground. Both even-age and uneven-age management will be practiced in unseen and background areas.
6	Scenic/Winter Range	Uneven-age management will be emphasized on foreground and middleground seen areas. Even-age management, with emphasis on 10-20 acre regeneration units, will be the preferred management on background and unseen areas.
7	Wood/Forage	Even-age management will be emphasized. Clearcutting will be used only when it is determined to be the optimum method. 2/
8	Winter Range	Even-age management will be preferred with emphasis on regeneration units of 10-20 acres

.

1/ Refer to Management Prescription section in this Chapter.
2/ Refer to "Optimality of Clearcutting" in Appendix E, FEIS.

A detailed analysis of harvest practices selection including the application of even-age/uneven-age management can be found in Appendix E of the FEIS.

Vegetative Management Practices - As a result of the management direction above, approximately 93,400 acres of land will be managed using uneven-age silvicultural systems. Approximately 129,000 acres of land was originally assigned to uneven-age management, but 35,600 acres were not cost efficient and were assigned to minimum level management. The remaining 522,200 acres will be managed using even-age practices. Table 4.7 presents a breakdown of the acres assigned to each management area by silvicultural system. Those management areas that feature visual or wildlife management, (MAs 2, 3A, 5, and 6), utilize uneven-age practices. In addition, riparian areas will be managed using uneven-age practices, although they were not split into a separate management area.

Table Chapter 4 .7:Silvicultural Systems by Management Area

TABLE 4.7

SILVICULTURAL SYSTEMS BY MANAGEMENT AREA
(Thousand Acres)

Management Area

Silvicultural System	2	3A	5	6	7	8	Total
Even-aged Management	12.1	0	91.8	29.0	313.6	75.7	522.2
Uneven-aged Management	11.3	15.6	48.5	18.0	0	0	93.4
TOTAL	23.4	15.6	140.3	47.0	313.6	75.7	615.6

In addition to harvest activities, managed forest stands will receive cultural treatments to promote tree growth, create wildlife cover, or meet other specific resource objectives. During the planning period, roughly 4,200 acres per year will be planted, 2,800 acres will be naturally regenerated, and 8,200 acres will be precommercially thinned. Modeling assumptions were made for the purpose of applying reforestation and stand improvement prescriptions in FORPLAN and are described in Appendix B, FEIS. Silvicultural prescriptions applied on the ground will be tied to the Forest Plan direction, but will also take into account individual variation associated with the sites and species involved.

Projected Outputs - The projected Allowable Sale Quantity (ASQ) resulting from the vegetation management practices, which follow the silvicultural management direction given for the suitable forest land, is 28.7 million cubic feet (MMCF), 123.4 million board feet (MMBF), annually for the first decade. This volume will be harvested using a variety of harvest methods as shown in Table 4.8. This Table displays a breakdown of ASQ and Timber Sale Program Quantity (TSPQ) by harvest method. ASQ includes chargeable volume from suitable land; TSPQ includes ASQ plus nonchargeable volumes from suitable and unsuitable land. Non-chargeable products such as cull material, fuelwood, special products not meeting utilization standards, and harvests from unsuitable lands are expected to be offered for sale in incidental amounts. Approximately 179,900 cords (90 MMBF) of fuelwood will be available annually during the next decade for personal and commercial firewood purposes. Based on average annual firewood use during the past decade, about 30,000 cords of firewood (15 MMBF) will be used. In addition, it is projected that 7.5 MMBF of submerchantable roundwood will be utilized by the Ponderay Newsprint Company. The remaining material is available for use should the demand develop. (See Table II-10 and Chapter II, EIS for further information).

Table Chapter 4 .8:Allowable Sale Quantity And Timber Sale Program Quantity

TABLE 4.8

ALLOWABLE SALE QUANTITY AND TIMBER SALE PROGRAM QUANTITY 1/
(ANNUAL AVERAGE FOR FIRST DECADE)

Harvest Method	**Allowable Sale Quantity 2/** **Sawtimber** (MM CF)	Other Products (MM CF)
Regeneration harvest:		
Clearcut	14.4	0
Shelterwood and seed tree		
Preparatory cut	0	0
Seed cut	7.8	0
Removal cut	2.7	0
Selection	2.8	0
Intermediate harvest		
Commercial thinning	0	0
Salvage/sanitation	1.0	0
Totals	28.7	0
	Additional Sales 3/ **Sawtimber (MM CF)**	**Products (MM CF)**
Total for all harvest methods	.2	5.2

Allowable sale quantity: 28.7 (MMCF) 123.4 (MMBF) Timber sale program quantity: 34.1 (MMCF) 146.8 (MMBF) (based on local unit of measure).
(Total of allowable sale quanity and additional sales).

1/ To be expressed to nearest .1 MM board and cubic feet.
2/ Only includes chargeable volumes from suitable lands.
3/ Only includes nonchargeable volumes from suitable and/or unsuitable land.

Harvest in any given year may vary based on site specific information and environmental analysis. The overall objective is to implement the Forestwide Standards and Guidelines and management area prescriptions. The estimated outputs displayed in Tables 4.9 and 4.10 are based on predictive models. If contradictions occur, the Forestwide Standards and Guidelines will take precedence. The first table (Table 4.9) presents estimated yields and acres treated for each working group by silvicultural method. Working groups represent plant associations that have similar productivity and response to treatment. Much of the modeling used the working group as a basic unit. (See Appendix B, FEIS).

Table Chapter 4 .9:Average Annual Volumes and Acres Treated by Working Group

TABLE 4.9
AVERAGE ANNUAL VOLUMES AND ACRES TREATED BY WORKING GROUP (FIRST DECADE)

Silvicultural Method	DF	AF	CH	Total
Even-age				
Volume (MCF)	8.08	2.9	15.0	25.9
Area (M acres)	4.3	.9	4.0	9.2
Uneven-age				
Volume (MCF)	.7	.0	2.1	2.8
Area (M acres)	.4	.0	1.3	1.7
Total				
Volume (MCF)	8.7	2.9	17.1	28.7
Area (M acres)	4.7	.9	5.3	10.9

The next table (Table 4.10) displays the estimated yields and acres treated annually in the first decade for each management area by silvicultural method. Riparian areas were not delineated as a separate MA but occur within all management areas and will be managed using uneven-age silvicultural systems.

Table Chapter 4 .10:Average Annual Volumes and Acres Treated by Management Area

TABLE 4.10
AVERAGE ANNUAL VOLUMES AND ACRES TREATED BY MANAGEMENT AREA

Management Area

Silvicultural Method	2	3A	5	6	7	8	Total
Even-age Management 1/							
Volume (MCF)	.7	.0	5.3	1.3	14.7	3.9	25.9
Area (M acres)	.2	.0	1.7	.5	5.2	1.6	9.2
Uneven-age Management							
Volume (MCF)	.1	.1	2.0	.6	.0	.0	2.8
Area (M acres)	.1	.1	1.1	.4	.0	.0	1.7
TOTAL							
Volume (MCF)	.8	.1	7.3	1.9	14.7	3.9	28.7
Area (M acres)	.3	.1	2.8	.9	5.2	1.6	10.9

1/ Riparian zones are included in the even-age outputs. Only uneven-age systems will be used to manage riparian zones.

Figure 4.1 displays the annual allowable sale quantity in relation to long term sustained yield (LTSY). Initially, the ASQ (28.7 MMCF) is about 72 percent of LTSY. This figure remains steady for the first four decades as the Forest is converted to managed stands. ASQ increases in the fifth decade, and essentially reaches the LTSY level of 39.7 MMCF in the seventh decade as managed stands reach maturity.

Figure Chapter 4 -1:Display of Allowable Sale Quantity and Long Term Sustained Yield

FIGURE 4.1
DISPLAY OF ALLOWABLE SALE QUANTITY
AND LONG TERM SUSTAINED YIELD

Note this figure not in DG version.

Table 4.11 displays the average annual acreage to be treated by management practice and the estimated resulting output. The figures represent the average annual treatments during the first decade. During the first few years of implementation these figures may not be attained but this may be compensated for by the end of the decade.

Table Chapter 4 .11 : Vegetation Management Practices

TABLE 4.11
VEGETATION MANAGEMENT PRACTICES
(Annual Average for the First Decade for Suitable Lands)

Silvicultural Method	Estimated Annual M Acres	Average Treatment MBF
Even-age Management:		
Clearcut	4.2	66.2
Shelterwood	2.8	33.4
Final Removal	2.2	11.6
Intermediate Harvest:		
Commercial Thinning	0	0
Salvage		1.1
		4.4 1/
Uneven-age Management		
Single Tree Selection	0.4	1.3
Group Selection	0.9	7.2
With Larger Openings	0.4	3.7
TOTAL	10.9	123.4

1/ Salvage acres and volume were not separated. Salvage will be included in the ASQ, not added to it (See Table 4.8 [ASQ & TSPQ]).

The timber sale activity schedule for 1989-92, as displayed in Appendix D, Forest Plan, is a schedule based on this plan, current conditions, and available information. The first few years represent a transition from past direction to current direction. Environmental assessments will be prepared for all future projects and will comply with Forest Plan direction.

Present and Future Forest Conditions - Table 4.12 displays the estimated growing stock and annual growth in the first and fifth decades. The growing stock declines over time as over-mature timber is converted to managed stands. Growth more than doubles during this time as the older, slow growing stands are replaced by more rapidly growing younger trees.

Average rotation ages range from 60 years, on the highly productive cedar/hemlock working groups, to 70 years on both the drier Douglas-fir, and higher elevation alpine fir working groups. These rotations are for regenerated stands on lands with timber emphasis. Areas where timber is managed for other resource needs have longer rotations. The direction tying timber management in this Plan to the Regional Guide and the National Forest Management Act (NFMA, 1976) regulations is contained in the Forestwide Standard and Guidelines.

In caribou habitat, MA2, harvest has been delayed in some over-mature stands for the first two decades. Extended rotations have been planned in fall and early winter areas (Appendix I, FEIS). Rotations have also been extended to 180 years for old growth habitat indicator species. This will occur on 215,000 acres in MAs 5, 6, 7, and 8 (Appendix B, FEIS). Snow intercept thermal cover will also affect rotation lengths on 30 percent of the mule deer and 20 percent of the remaining winter range on the Forest.

Table Chapter 4 .12:Present and future Forest Conditions

TABLE 4.12

PRESENT AND FUTURE FOREST CONDITIONS

	Unit of Measure	Suitable Land
Present forest: (Decade 1)		
Growing stock	MMCF	1,388
	MMBF	5,968
Annual net growth	MMCF	19.9
	MMBF	85.6
Future forest: (Decade 5)		
Growing stock	MMCF	1,234
Annual net growth	MMCF	41.6
Rotation age	Years	60 to 70 1/

1/ Average rotation age for regenerated stands on lands with timber emphasis by major forest types.

Figure 4.2 presents a distribution of age classes on tentatively suitable lands, 771,248 acres (See Table 4.2 for land classifications). The Vegetation Sections of Chapters III and IV of the FEIS contain a discussion of these categories. The Forest currently contains two large components making up over 80 percent of the suitable land base. These are over-mature stands, (50 percent), and young stands regenerated as a result of the wildfires in the 1920's and 1930's, (31 percent). By the fifth decade a substantially different picture is presented as the Forest comes under management. Much more equal distribution by class is evident. Also, over 10 percent of the suitable land base will have been converted to uneven-age management.

Figure Chapter 4 -2 : Age Class Distribution

FIGURE 4.2
AGE CLASS DISTRIBUTION
(PERCENT OF TENTATIVELY SUITABLE LANDS) This figure displays Current and 5th Decade information for Seedling, Sapling/pole, young, mature, overmature and uneven-age types.

Potential Timber Supplies - Table 4.13 displays an analysis of the 771,249 acres designated as "Tentatively Suitable Forest Land" in Table 4.5. This analysis was made to test the changes in yield that will occur due to change in management intensity and acres. The analysis was completed using FORPLAN, a linear program used in forest planning.

Run A, as shown in the table, utilized the acres and yields associated with the Forest Plan. In this run, 95,438 acres were not appropriate for timber production due to multiple-use objectives, and 60,194 acres were not cost efficient for timber production.

Run B displays the acres and yields when timber outputs are maximized regardless of cost. This run allows more intensive management and more acres to be treated. The intensive management activities and the additional acres used in Run B were not used in Run A because they did not contribute to increasing the Present Net Value (PNV), that is, they were not cost efficient.

Run C also maximizes timber output as in Run B, but with the acres constrained to that of Run A. This run represents the effects of more intensive management.

As shown in Table 4.13, Run C yields 16 percent more volume than Run A with an 8 percent increase in the LTSY. This indicates that more timber could be produced from the Forest using management activities which are less cost efficient. Run B yields a 24 percent increase in volume and a 16 percent increase in LTSY over Run A. The difference in yields between Runs B and C (9.8 MMBF) is that volume attributable to the additional land base of 47.0 thousand acres.

Managing lands which are less cost efficient has the potential to contribute 47.0 thousand acres to the suitable land base, 29.9 MMBF (6.9 MMCF) to ASQ and 6.4 MMCF to the long term sustained yield. This potential yield could be realized if the supply/demand and price situation were to change significantly.

No change would be made in the ASQ and suitable lands base without an amendment to the FEIS and Forest Plan.

Table Chapter 4 .13 :Evaluation of Land Tentatively Suitable for Timber Production

TABLE 4.13
EVALUATION OF LAND TENTATIVELY SUITABLE
FOR TIMBER PRODUCTION

	RUN A1/	RUN B2/	RUN C3/
1.Land Tentatively Suitable for Timber production (M Acres)	771.2	771.2	771.2
2.Tentatively suitable land not appropriate for timber production due to multiple-use objectives (M Acres)	95.4	95.4	95.4
3.Tentatively suitable land not selected by FORPLAN for timber production (M acres)	60.2	13.2	60.2
4.Suitable Land for Timber Production 4/	615.6	662.6	615.6
5.ASQ First Decade			
MMBF	123.4	153.3	143.5
MMCF	28.7	35.6	33.4
6.LTSY (MMCF)	39.7	46.1	42.7

1/ Run A - The acres and volumes are those from this proposed Forest Plan. Cost efficiency used as a criteria for both acres and management intensities. Maximum present net value (Max. PNV) used as an objective.

2/ Run B - Results of this FORPLAN run show the acres and volume that would be available if cost efficiency was not a criteria for acres or for management intensities. Land and intensities selected using maximize timber as an objective (Max. TM obj. func.).

3/ Run C - Results of this FORPLAN run show the acres and volume that would be available if cost efficiency was a criterion for acres but not for management intensities. Maximize timber as an objective with acres constrained to only those which are cost efficient to manage (this uses the same acres as Run A).

4/ Line 1 minus lines 2 and 3.

Soil and Water Program

The watershed program on the Colville National Forest is grouped into several parts: (1) coordinating with other resources to provide support and advice that helps protect the soil and water resource; (2) monitoring the effect of the Forest Plan activities on the soil and water resources; (3) restoring damaged soil and water resources; (4) working with the Washington State Department of Ecology or others as needed to secure water rights; and (5) coordinating with other agencies or interested parties.

The major coordination with other resources will be with the timber program. Timing of support will be tied to the development of individual timber sales and associated roads. It will involve initial consultation on inventory and needs of the soil and water resources through evaluation of management practices as the timber sale is completed. The specific projects are listed in the Timber Sale Activity Schedule (see Appendix D, of this Plan). Other coordination will be done with range, geology and minerals, fuel management,fisheries, wildlife, land management planning, recreation management, engineering, and non-timber sale work such as seed orchards and fertilizer trials.

The perennial portion of Threemile Creek which is a Class III stream, will be managed under Streamside Management Unit (SMU) Class II guidelines and road crossings will not be permitted. These requirements will provide additional protection for the domestic water supply and fish pond at the Luhr residence.

Monitoring of the effects of the Forest Plan will help determine if management practices are changing the soil and water resources. The major elements to be monitored are soil productivity, water quantity, water quality, and protection of wetlands, floodplains, and riparian areas. Monitoring also will include the training of District personnel to collect information to be sent to the Forest hydrologist/soil scientist. Periodic management reviews by Forest and regional staff will also help to monitor the effects of management on the elements mentioned above.

Watershed restoration projects on the Colville National Forest will normally involve stabilizing cut and fill slopes along roads on unstable soils.

Where there are diverse ownership patterns within the Forest, cumulative effects analysis will be used to indicate the potential adverse effects of a specific management activity.

The Colville National Forest will work with other agencies, organizations, and individuals concerned with water resources draining from the National Forest. These may include soil and water conservation districts, Soil Conservation Service, city and county officials, water basin planning groups, the Washington State Department of Ecology, and the Colville Confederated Tribes. Coordination will be developed as needed.

Soils will remain productive except where landings, roads, and skid trails are located. Disturbance, principally compaction, will occur on about 20 percent of the harvested lands. Most will occur in roads, landings, and skid trails which will be used in subsequent entries. Erosion, compaction, and displacement would be minor due to commonly prescribed erosion control techniques.

Air Quality Program

The effects of the Forest's fuels management program on localized air quality will be monitored to ensure compliance with State Air Quality Visibility Standards. These standards are based on the production of total suspended particulate (TSP) emissions produced by wood smoke and are regulated by state agencies. The level of TSP emissions produced can be calculated using site specific fuels information and time of year fuels are ignited. (See Monitoring Plan).

The goal of the fuels treatment program is to judiciously apply prescribed fire and increase wood residue utilization to achieve fire hazard protection objectives. Using prescribed fire when no other treatment method is available and increased utilization will help the Forest make reasonable progress in reducing its TSP emission production.

Lands Program

The objective of the Lands Program is to achieve an optimum land ownership pattern which meets the demands of resource uses now and into the future. This includes:

-- consolidating National Forest System land ownership within the Forest proclamation boundaries;

-- acquiring and granting rights-of-way which insure access to and protection of National Forest System land; and

-- facilitating other land ownership adjustments which are consistent with the goals and objectives of this Plan.

The land line location program will be approximately 73 miles per year. The land exchange and acquisition program will average approximately 3,500 acres per year.

Federal and State Highway easements and rights-of-way will be granted by 1995.

Table 4.14 (Land Adjustment Direction) provides the basis for land adjustment direction by management area.

Table Chapter 4 .14:Land Adjustment Direction

TABLE 4.14

LAND ADJUSTMENT DIRECTION

GROUP	DESCRIPTION	DIRECTION	GENERALLY APPLICABLE TO
I	Congressionally designated areas with direction for acquisition of other ownership.	Retain National Forest ownership.	MA 9
II	Management to meet special needs, which are generally oriented to wildlife habitat, recreation, watershed.	Favor retention of National Forest ownership and acquire private lands as opportunity occurs to improve over-all management opportunities.	MA 1, MA 2, MA 3B, MA 4, MA 11 Developed recreation sites; Municipal Supply Watersheds; All T&E Habitat.
III	Forest land where commodity production usually occurs, and which is not identified as critical threatened and endangered wildlife habitat. Lands in this group can be expected to provide similar types of outputs whether in private or public ownership.	Maintain balance in non-Forest/Forest lands for similar resource capacity over the planning period.	MA 3A, MA 5, MA 6, MA 7, MA 8, MA 10. Class I & II fisheries.
IV	Tracts of land adjacent to, or separated from, the National Forest boundary.	Make these isolated tracts available to acquire private lands in Groups I, II, & III.	Applicable to any small isolated tra not in Groups I, & II.
V	Special situations where land adjustments would serve a special need.	Site specific study and planning are necessary before land adjustment decision can be made.	MA 3C and any National Forest lands not in Group I.

Facilities Program

The Colville National Forest transportation system is planned, constructed, and operated to facilitate land and resource management objectives. Coordination with the objectives of other resources is essential in establishing transportation system program objectives. Specific direction for transportation system planning, construction, reconstruction operational management, and environmental protection is summarized in the Forestwide Standards and Guidelines and in the Management Area Prescriptions found in this chapter. Approved long range area transportation and harvest plans will be implemented and revised as necessary to be consistent with this Plan.

New road construction will be primarily related to timber harvest operations and limited to local timber purchaser roads. The arterial and collector roads are in place, but concurrent use by commercial trucks and other types of vehicular traffic is not safe or economically practical on some of these roads. Those arterials and collectors at the lowest standards, or with the highest demand for concurrent use by commercial trucks and other traffic types may require reconstruction to a higher standard. These major activities are listed in Appendix F, Forest Plan. Reconstruction will be required on some local roads for safety or economy of operations.

Monitoring of the Forest Plan for facilities (roads) will generally be accomplished through maintenance of the Primary Base Series Map (scale 1:24000), Transportation Inventory System, and the Forestwide Travel Management Schedule and will also be used to implement many of the requirements in the standards and guidelines and management prescriptions.

Utility corridors have been designated on the Forest. These corridors will be utilized whenever possible for any future utility needs before new corridors are developed.

The development, maintenance, and management of the Forest Development Road System is to be continued as needed to respond to resource management objectives. Many road-related activities will occur in support of the timber management program, with additional activities undertaken to facilitate recreational use, Forest administration, and resource protection.

The projected operational status of the forest development road system is as follows:

Decade	Passenger Car Mileage	High Clearance Vehicle Mileage	Year Around Closure Mileage	Total Forest Mileage
Current	849	2,500	396	3,745
1st	849	2,500	1,126	4,475
2nd	849	2,500	1,636	4,985
5th	849	2,500	1,736	5,135

Direction detailing construction, reconstruction, operational management, and environmental protection requirements for the Forest road system are further described in the Forestwide Standards and Guidelines or the Management Area Prescriptions detailed in this chapter.

The Sullivan Lake Airstrip will continue to be managed as an airstrip, available for use by the flying public and for administrative use by the Forest Service.

Minerals Program

Due to the structure of mineral laws and regulations, the Forest Service's Minerals Management Program is largely responsive in nature. Except for in-service saleable mineral contracts and permits, a major part of this job will be responding to applications and proposals submitted from outside the agency. Forest Service responsibility for such proposals lies mainly in providing reasonable surface protection and reclamation requirements within specified time frames and in assuring compliance of the same. The basic objective will be to facilitate minerals exploration and development on Forest lands while accommodating the needs and conservation of other resources to the fullest extent possible.

It is anticipated that action will be necessary on an average of 150 mineral operating plans, lease applications, and permits per year for the first decade. Actual numbers will depend upon the economy and minerals demand. Average annual mineral production, including energy minerals, from Forest lands during the first decade is estimated at $4.5 million. Most of this is expected to come from the Kettle River Gold Mine Project. Actual production may vary substantially, however, because of the inherent difficulty in predicting mine developments.

Mineral examinations may be initiated by the Forest to assess mineral values or valid rights in cases of suspected occupancy trespass, wilderness mining claim development, land exchange proposals, and/or other administrative purposes. Technical examinations will also be necessary for any mining claim patent applications received involving Forest lands.

As with the other resource areas, the monitoring actions will be an important part of the minerals program. The monitoring plan is designed to identify problems with the approval process and surface protection mitigation and reclamation connected with mineral operations and reclaimation. Project specific environmental analyses for potential future mineral development may show a need for Plan amendments.

Fire Protection and Use Program

The fire management program on the Colville National Forest is a service program which supports the other resource management programs identified in this Plan. Fire management includes all activities for the protection of resources and other values from wildfire, and the use of prescribed fire to meet land and resource management goals and objectives.

The fire protection program includes the activities of fire prevention, presuppression management (i.e., planning, detection, dispatching, fire danger rating, fire weather forecasting and training), suppression, fire reporting, and fire management analysis and planning. The

collective application of all fire management activities required to meet the fire management direction for each management area, including fuels management, will be documented in a fire management activity schedule. The Fire Management Action Plan will be completed after approval of the Forest Plan.

Fire management direction identifies an appropriate suppression response (i.e., Confinement, Containment, or Control) for each management area based on the cost of suppression compared against the expected resource loss.

Fuels management involves the planning, contracting, administration, and direct implementation of prescribed fire and other fuel treatment activities for the protection, maintenance, and enhancement of resource productivity,and site preparation for optimal regeneration while maintaining long-term soil productivity. Fuel treatment activities are responsive to other resource needs, especially the harvesting of timber and fire management needs. Approximately 2,000 to 3,000 acres of residue will be treated each year for hazard reduction. Depending on weather conditions an additional 1,000 acres may be burned for site preparation.

The overall goal of fire management is to minimize the costs associated with wildfire protection and the Forest fuels treatment program while reducing the net change due to wildfire or proposed application of fuels treatment projects. This will be based on the value of planned resource outputs which are consistent with the land and resource management goals and objectives of this Plan. Fire Management's role is to coordinate, plan, and implement fire protection and fire use programs consistent with the Forest Plan and the management area prescriptions.

Implementation of fire management programs also involves both internal and external coordination. The internal coordination, with other resource programs, is principally accomplished through the Forest's timber sale program.

Additional internal coordination is required for the planning and implementation of prescribed fire activities in support of wildlife, range, and silvicultural plans and objectives. The annual fuel treatment program varies based on the timber harvest levels of the preceding years and the availability of other resource funding for the prescribed fire applications.

The majority of the external coordination involves reciprocal cooperative fire protection agreements with the Forest's neighboring fire suppression organizations. The Colville National Forest has formally entered into agreements with the State of Washington, Department of Natural Resources; Bureau of Indian Affairs for the Colville Indian Reservation; and the Province of British Columbia, British Columbia Forest Service. The Forest also contractually protects adjacent lands administered by the Department of Interior, Bureau of Land Management.

The use of prescribed fire and fire suppression activities have a direct effect on the physical and biological environment, which includes air quality. Monitoring the effects of the fire management programs will help determine if management practices are changing the physical and biological environment and if the cost of the program activities meet the cost plus net value change criteria associated with the implementation of the Forest's fire protection and fire use programs (see Monitoring Plan, Chapter 5, Forest Plan).

Research Natural Area Program

Currently the Forest has two established Research Natural Areas (RNAs). Through the RNA Program, six additional RNAs will be established on the Forest. Leadership and coordination for development and preparation of the respective establishment reports will be the responsibility of the Forest, and technical support and assistance will be provided by the Pacific Northwest Forest and Range Experiment Station.

Site specific analysis used to select future RNAs will address concerns related to activities on lands adjacent to the proposed RNA boundaries. This will assure that these activities do not reduce the effective useful size of the proposed RNA by modifying the area's character through a microclimatic edge effect.

Due to additional sensitive plants identified adjacent to the Halliday Fen area, a sensitive plant survey will be undertaken during the planning and analysis phase of future projects in the basin surrounding the proposed Halliday Fen RNA. The survey will determine appropriate action to protect the Fen and sensitive plants in the area.

Acquisition of the Burlington Northern Lands adjacent to the proposed Bunchgrass Meadows RNA will be pursued. Should the acquisition be successful the suitable areas will be included in the RNA.

Areas where non-conforming use is suspected will be monitored to determine appropriate action. A protection system will be developed for Bunchgrass Meadows which includes barriers and use restrictions.

The RNA program will also consist of a cooperative effort between the Colville National Forest, the Pacific Northwest Forest and Range Experimental Station and the State Natural Heritage Program to identify areas for possible future needs in the RNA system.

see plan2 for page 4-35 on.

Begin Plan page 4-35.

FORESTWIDE STANDARDS AND GUIDELINES

The following standards and guidelines apply to those National Forest System lands within the Colville National Forest. They are intended to be used with national and regional policies, standards and guidelines contained in Forest Service manuals and handbooks, and the Pacific Northwest Regional Guide. These standards and guidelines, when used in conjunction with the management prescriptions for the management areas, set the overall management direction for the Colville National Forest. They apply Forestwide and are in addition to the management prescriptions.

RECREATION

1. Recognize undeveloped campsites, outstanding scenic, geological, botanical areas or areas where concentrated recreation use occurs as being significant in providing dispersed recreation opportunities. Inventory, evaluate, and manage these sites.

2. Limit regulation, constraint, and supervision of recreation use to the minimum necessary for resource protection, visitor satisfaction, and safety.

3. Encourage public participation in recreation planning.

4. Whenever possible, other resource activity planning should incorporate plans to provide or improve compatible recreation facilities or services.

5. Provide the public with appropriate information on recreation opportunities and knowledge of forest resource management.

6. Emphasize "pack in - pack out" policy.

7. Update the existing situation Recreation Opportunity Spectrum (ROS) map in the Forest data base or Geographical Information System (GIS) every five years.

8. Provide for a broad range of ROS settings and recreational opportunities such as hunting, fishing, gathering forest products, viewing scenery, camping, hiking, and floating.

9. Developed facilities will be administered and maintained to provide visitor safety and sanitation, protect facility and site resources, and provide for visitor recreation needs and convenience.

10. Provide for a full range of new or expanded recreation facilities commensurate with projected public needs and desires.

11. Encourage partnership arrangements with user groups and other recreation providers to develop and maintain a diverse and balanced range of recreational services and facilities.

12. Where the need exists, facilities in existing developed sites should be modified to make them usable by the handicapped. Future developments will be planned and designed to make facilities accessible to the handicapped.

13. A comprehensive and approved site plan shall be developed prior to site construction, reconstruction or expansion in accord with requirements specified in FSM 2330.

14. Emphasis is to be placed on upgrading (rehabilitation) existing sites to meet todays recreational user needs and desires prior to proposing additional sites.

15. The capacity of existing recreation facilities will be based on average peak season weekend use. New or additional facilities will be justified when the average peak weekend use reaches 90 percent of the PAOT capacity of the site.

VISUAL RESOURCE MANAGEMENT

1. Cut blocks, patches, or strip cuts shall be shaped and blended to the extent practicable with the natural terrain.

2. Immediate foreground areas (approximately 500 feet) around significant dispersed recreation sites will be managed to meet the retention visual quality objective.

3. Foreground retention areas are to be managed for at least 30 percent of the stand to be 21 inches DBH (diameter at breast height) or greater in size.

4. Partial retention foreground areas are to be managed for at least 30 percent of the stand to be 16 inches DBH or greater in size.

TRAILS

1. Develop and manage trail system as a recreation facility. Plan trail difficulty levels to complement Recreation Opportunity Spectrum and Wilderness Recreation Opportunity Spectrum management objectives.

2. Sign all system trails outside wilderness to provide for user safety and convenience. Wilderness system trails will be signed for user safety only.

3. Cooperate with state and counties on grooming snowmobile trails and on development of trail systems where appropriate.

4. Different skill levels of users will be provided for and considered when designing trails and related facilities. A spectrum of opportunities for winter recreation will be maintained, including primitive dispersed opportunities with no facilities.

5. Protect trails and facilities during management activities with appropriate mitigation measures.

6. Reconstruct and/or relocate trails and facilities during management activities.

7. Trails interrupted by logging or road construction will be restored or substitute trails provided so the mileage of trails in a given area is not diminished. Trails may be closed during logging or construction activities for public safety. Clear directions for users will be provided during logging or construction activities on trails which will be kept open.

8. Encourage trail use of closed roads where there is a demonstrated need, or projected future demand, and conflicts with other uses can be mitigated.

9. Designate areas for off-road vehicle (ORV) use through the Forest Travel Implementation Schedule and in conformance with ROS designations for specific areas. Manage ORV use to minimize resource damage and to promote public safety.

10. Ensure that ORV use, including over-snow type, is managed to mitigate their impacts on other resources, promote safety of users, and minimize conflict with other uses.

WILD AND SCENIC RIVERS

1. Protect from degradation the outstanding values, scenic and recreation characteristics of the Kettle River and its environments, pending a decision on its inclusion into the Wild and Scenic River System.

CULTURAL RESOURCES

1. Maintain and update the Forestwide cultural resources overview that summarizes and compiles cultural resources information.

2. Inventory all areas where ground-disturbing activities are planned in order to discover all reasonably locatable cultural resources.

   Concurrently, the Forest will develop a survey strategy to guide an inventory of all National Forest lands to identify all reasonably locatable cultural resources, and an implementation schedule to accomplish the inventory on lands not affected by projects.

3. Cultural resources identified through the inventory will be evaluated according to the criteria of the National Register of Historic Places.

4. Nominate cultural resources that meet the appropriate criteria to the National Register of Historic Places. Nominations will be scheduled incidentally until completion of the forestwide inventory of cultural resources.

5. Protect the resources considered eligible for the National Register of Historic Places from project activities by making reasonable efforts to avoid adverse impacts to the resources or develop a procedure to conserve the values through proper scientific methods and study.

   Protect eligible cultural resources from human depredation and natural destruction. Protection may include physical protection such as fences and barriers, scientific study and collection, patrol and site monitoring, proper use and removal of signs, maintaining site anonymity, and gaining public understanding and support through education.

6. Eligible historic sites will be maintained or the resultant adverse effect will be mitigated to the extent practical.

7. Promote and provide for the interpretation of cultural resources for educational benefits.

8. Coordinate long-term management of cultural resources with the State Historic Preservation Officer and others as necessary.

   Coordinate management of American Indian traditional religious sites with the Colville Confederated Tribes, the Kalispel, and the Spokane Tribes. Present information about planned project activities within traditional territories of any of these tribes to the concerned tribe, and allow them the opportunity to provide information about those areas and to participate in the inventory.

WILDLIFE

1. Develop and maintain wildlife and fish habitat at prescribed levels through:
   a. Coordination with all management activities.
   b. Prevention of significant damage to Forest wildlife and fish communities.
   c. Direction of cultural practices.

2. The following management indicator species habitats will be managed as directed in the specific management prescriptions:
   Caribou (MA 2)
   Deer and Elk Winter Range (MAs 6 & 8)
   Old Growth Dependent Species (MA 1)

3. Management indicator species groups will be managed as follows: (Note: Areas within which habitat units are to be confined will be no more than twice as long as wide. Distribution of habitat units is measured center to center. Prescribed distances are averages and may vary up to 20 percent. If suitable habitat does not currently exist in the proper distribution, timber stands will be managed to provide it at the earliest possible time.)

a. **Pileated Woodpecker** - Within Douglas-fir and cedar/hemlock working groups, within a 1,000 acre unit: maintain 300 acres of conifers in seral/stages VI and/or V, (Thomas, et. al, 1979) per pair for reproducing.

Maintain a minimum average of two hard snags/per acre more than 12 inches DBH within the 300 acre reproductive area. Forty-five of these 600 snags should be more than 20 inches DBH.

When possible maintain reproductive area in 300 contiguous acres. If not possible, habitat may be arranged in blocks no less than 50 acres and no more than 1/4 mile apart.

Maintain a minimum average of two hard snags/per acre more than ten inches DBH on an additional 300 acres for feeding.

Distribution is five miles.

b. **Northern Three-toed Woodpecker** - Within subalpine fir working groups and lodgepole pine components of other timber working groups, maintain 75 acres of conifers in seral stages VI and/or V, distributed every two miles. Maintain a minimum average of two hard snags per acre more than ten inches DBH, within the 75 acre reproductive area. Forty-five of these 150 snags should be more than 12 inches DBH.

c. **Primary Cavity Excavators** - Maintain dead and defective tree habitat capable of supporting at least 60 percent of the potential population of primary cavity nesters within land areas that are generally no larger than normal harvest unit size. These densities will be maintained through the full rotation on these areas by providing for green replacement trees.

In early successional stages (grass/forb, seedlings, and saplings) of even-age management, the required snags will be managed in patches wherever the existing distribution of snags and live trees allows. In stands with a forested structure (uneven-age management or mid-to-late stages of even-age management) either patches of snags or more evenly distributed snags are acceptable.

Where adequate snags are not currently available to meet the management requirement (MR) direction (20 percent) in each 40-acre area, created snags should be used to meet that direction as nearly as possible. If snags cannot be created, higher snag levels can be managed in adjacent areas and averaged with the low levels in deficient areas to meet MR direction.

Specific numbers and sizes of snags will be identified to fit the species needs for the particular habitat being managed using appropriate guidelines from Thomas, et. al. (1979). Retain hardwood trees; i.e., cottonwood and aspen.

Manage to provide a minimum of two down, dead trees per acre. Minimum size of these logs will be 15 feet long and 14 inches diameter at the small end. If logs of this size are not available, the largest available ones will be left.

d. **Franklin's Grouse** - Within Management Areas 5, 6, 7, and 8, in areas of extensive lodgepole pine, maintain a distribution of age classes so that within each area of 5,000 acres, at least 1,000 acres are less than 20 years of age. In addition, maintain at least 50 percent of the early age class lodgepole stands in an unthinned condition. Precommercial thinning may occur on these stands after the average tree age exceeds 20 years. Meet this standard within the intent of overall management area objectives.

Optimum unit size is 20 acres or less, however, size may approach 40 acres. Density of open roads through these stands will not exceed one mile per square mile except during active projects (to protect lynx habitat).

e. **Blue Grouse** - In park-like or open timber on and near ridgetops, maintain mature limby Douglas-fir or subalpine fir at a rate of at least eight or more trees per acre, either individuals or in groups. Insure hiding cover around at least 50 percent of the perimeter of each spring or other water source, with no break in cover exceeding 600 lineal feet along the waters edge.

f. **Raptors and Great Blue Heron** - Manage the nest sites and surrounding areas to insure their continued usefulness to the respective species.

g. **Beaver** - Maintain or enhance beaver habitat.

h. **Furbearers** - Most furbearers are within one or more management indicator species groups. Other forest management activities that may adversely effect furbearer habitat or populations are responsible for mitigation of those effects.

i. **Waterfowl** - Maintain or enhance waterfowl habitats.

j. **Northern Bog Lemming** -The northern bog lemming is a management indicator species on the Colville National Forest by virtue of its limited habitat which could foreseeably be reduced by management activities. The management goal for the northern bog lemming is to maintain at least the 1980 habitat capability.

k. **Marten** - Every 2 to 2 1/2 miles, provide units of at least 160 acres of conifer timber in successional stages VI (old growth), or V (Mature) where stage VI is not currently available. These stands will have crown cover of 50 to 100 percent and will be of species composition that will provide habitat suitable for marten. Within these units preserve natural snag densities and windthrown trees. Minimum objectives will be two snags per acre more than 12 inches DBH, of which at least one in every seven acres will be more than 20 inches DBH, and at least six down trees per acre, preferably with root wads attached.

4. Give special consideration to management or protection of unique habitat components, not covered by other management indicator species, during evaluation of activities that may effect such habitats and the species that are dependent on them. Evaluate the species status, dependency on the component, and the extent or limitation of the component as factors influencing the viability of populations within the Forest or the range of the species.

5. Endangered and threatened species, other than caribou which are covered under a management strategy, will be treated as follows:

   a. **Grizzly Bear** - Manage grizzly bear habitat in accordance with the Interagency Grizzly Bear Guidelines, Colville National Forest Guidelines for Management in Occupied Grizzly Bear Habitat (Appendix H, FEIS), national policy, and Grizzly Bear Recovery Plan.

      --Evaluate cumulative effects of management activities within each grizzly bear management unit (GBMU).

      --Within each GBMU, insure that the following essential elements are provided:
      (1) Sufficient forage for each season of use to meet the requirements of a recovered population.
      (2) Seventy square miles or more of seclusion (area with no currently active roads or high human activity areas).
      (3) Denning habitat within range of each GBMU.
      (4) Access corridors to insure uninhibited movement of bears between essential habitat components and between GBMU's.

      --Where caribou and grizzly bear habitats coincide, needs of the caribou will take precedence by virtue of its endangered status.

      --Restrictions on some recreation activities may be necessary within occupied grizzly bear habitats to reduce potential grizzly bear/human conflicts. No new trails or access points will be developed that would tend to increase use in the Selkirk grizzly recovery area.

   b. **Bald Eagle** - Manage bald eagle habitat in accordance with national policy, the Pacific States Bald Eagle Recovery Plan, and Bald Eagle Management Guidelines: Oregon-Washington. In so doing, the Forest will address habitat needs for present and recovery levels of bald eagles.

      --Conduct inventories of nesting habitat within Forest boundaries.
      Inventories will identify habitat with potential for nesting use, as well as areas actually selected and used. Schedule of inventory activity will follow the Recovery Plan's Implementation Schedule for the next 5 years.

      --Evaluate cumulative effects of management activities on bald eagle nesting habitat to insure continued suitability of both currently selected and identified potential sites.

--Conduct on-going monitoring of bald eagle activity in the vicinity to identify nesting and other habitat (roosting, wintering, migration) potential and use on the Forest. Manage any essential habitat components that are discovered to support bald eagle recovery.

c. **Peregrine Falcon** - Monitor possible nest sites for peregrine activity and support recovery plans and efforts.

d. **Wolf** - Investigate reports of gray wolf sightings on the Forest. Report significant findings to the U.S. Department of the Interior, Fish and Wildlife Service, and the Washington Department of Wildlife for inclusion on the Washington National Heritage Program database. If resident wolves are discovered, initiate appropriate actions to insure protection of the animals and compliance with recovery plans in effect at the time.

e. **Woodland Caribou** - Manage all identified Woodland Caribou habitat, regardless of designated Management Area, in accordance with Colville National Forest Guidelines for Management of the Selkirk Mountain Caribou Habitat (Appendix I, FEIS), national policy, and the Caribou Recovery Plan. Those areas outside the currently identified recovery habitat will be managed using the guidelines until the scheduled Recovery Plan revision (estimate 1991-92) so as not to preclude meeting long term recovery objectives. If, by that time, these acres have not been added as being necessary for recovery then, standard prescriptions for the identified management area will be applied.

6. Maintain and update lists of sensitive plants and animals periodically as new information is collected. Sensitive species lists for the Forest will be maintained and kept current with State and Forest Service Regional lists. Submit pertinent Forest information to the appropriate agency for inclusion in the data base.

7. No actions that are likely to jeopardize the continued existence of any plant or animal species or cause the need for listing any species threatened or endangered, will be authorized, funded, or carried out by the Colville National Forest. When evaluating the potential effects of an activity on any species, the species status, its dependency on the effected habitat, and the extent or limitation of the habitat, will be evaluated as they influence the viability of populations within the Forest or the range of the species.

8. Biological evaluations, biological assessments, and consultations with the U.S. Fish and Wildlife Service will be done, as appropriate, to ensure that no activity permitted, funded or carried out by the Forest Service jeopardizes the continued existence of a threatened or endangered species or adversely modifies the essential habitat of such species.

9. Initiate control with Washington State Department of Wildlife of animal populations that threaten public health or safety, or cause or threaten to cause unacceptable damage to other resources, wildlife populations or property. Control measures will be as specific as possible to target species, offending individuals, or offending population segments. Take no control measures that may threaten the continued existence of any species or population.

10. Manage predator habitat as a primary defense against wildlife agents that damage other resources. In cases where game animals or furbearers are causing damage, the State Department of Wildlife will be requested to increase hunting or trapping on the problem population, or to provide direct control. Habitat manipulation and repellents will be considered when feasible and cost effective.

11. Big game habitat capability models will be used in project planning to provide the quality, quantity, and distribution of cover and forage needed to reach management objectives for each planning area.

FISHERIES

1. Fish habitat enhancement will be carried out as indicated in the discussion of the "Wildlife Program." Statewide Comprehensive Fish and Wildlife Plans, coordinated with the Washington Department of Wildlife, will be updated annually as a source document to prioritize fisheries projects. The Forest's fisheries program will be responsive to the projects of the Northwest Power Planning Council, the Upper Columbia United Tribes, and the Colville Confederated Tribes.

2. Protect existing fish habitat from degradation where feasible. Rehabilitate habitats which have been degraded as a result of management activities where degradation is unavoidable. Mitigation will be at the affected site, when possible, but may be through off-site habitat enhancement when on site mitigation is not possible.

3. Emphasize management of native fish species habitat. Non-native species may be managed for in waters where they can be expected to provide at least 15 percent more biomass production or 15 percent more angler days recreation than native species. Non-native species may be used to provide diversity only where they will not adversely affect native fish or other native organisms in the affected or adjacent waters.

4. Road crossings of Class I and II streams and fish-bearing Class III streams will be the minimum necessary. Existing crossings will be used whenever possible. New crossings will be located at areas of the least possible stream gradient. Stream crossing structures will provide the least resistance to upstream fish passage. Bridges or bottomless arches will be used instead of culverts unless the culvert can be installed in a manner that will allow passage of native trouts during their spawning period.

   Drainage from roads will be dispersed prior to entering streams.

5. Maintain the general character of aquatic and riparian habitat features. Maintain a natural source of large woody debris to provide structural fish habitat.

6. In-stream migration barriers will normally be removed unless desired to prevent immigration by undesirable fish or when other aquatic organisms or when their removal would cause degradation to the stream and/or aquatic habitat.

7. Maintain water quality parameters within the range of good fish habitat conditions, and within State water quality standards.

   Streams:
   - Temperature - less than 16 degrees Celsius, provided that temperature increases resulting from a non-point source will not exceed 2.8 degrees Celsius above the natural base-line of the stream.
   - pH - Natural levels are normally between 6.5 and 9.0 on the Colville N.F. Man-caused variation will not exceed 0.2 units.
   - Dissolved Oxygen - more than 9.5 mg/L.
   - Total dissolved gas - not to exceed 110 percent of saturation.
   - Turbidity - Changes not to exceed 5 NTU where base-line turbidity is less than 50 NTU; changes not to exceed a 10 percent increase where base-line is more than 50 NTU.
   - Sedimentation - management activity caused suspended and bedload sediments when accelerate channel changes and/or reduce bank stability will be considered excessive, and mitigation will be implemented. Signs of unacceptable sedimentation are new bank cutting, bar building, filling of pools, covering of spawning gravels and riffles, bright colored bottom materials, and lack of or significant changes in population composition of aquatic invertebrates. In the event of such occurring, an assessment of the drainage will be done to determine probable cause and need for action to correct or mitigate for habitat degradation.

   Lakes:
   - Natural water quality parameters will vary in lakes depending on the depth, volume, bottom materials, water sources, soils, vegetation, etc. Meeting standards for the source streams will normally protect lakes adequately. Unacceptable changes will be assessed to determine the causes, and appropriate protective or corrective actions will be taken.

RANGE

1. Management of grazing by domestic livestock will be guided by project level allotment plans. The development of these plans will be integrated with the needs associated with use and values present in the area. All associated uses and values will be considered, with special consideration given to: (1) fish and wildlife habitat needs; (2) timber harvest and cultural activities; (3) riparian values; (4) recreation use; and (5) threatened, endangered and sensitive species. Further considerations are contained as other resource standards and guidelines in this section of the plan.

2. Identify lands in unsatisfactory condition (see glossary). Develop allotment plans with specific objectives for these lands on a priority basis under a schedule established by the Forest Supervisor. These objectives will define a desired future condition based on existing and potential values for all resources. The allotment plan will include: (1) a time schedule for improvement; (2) activities needed to meet forage objectives; and (3) an economic efficiency analysis.

3. Livestock stocking levels in project plans will be determined by considerations including: (1) Forage availability, suitability and condition; (2) other resource needs as shown above; (3) demand for grazing on the allotment and other livestock forage needs; (4) permittees ability to self-monitor management and maintenance in project allotment management plans and grazing permits; and (5) economic factors including development and maintenance cost of facilities.

4. Coordination requirements in the above considerations will include: (1) timing of the timber harvest and associated activities and grazing schedules; (2) protection of livestock barriers or mitigation of these values where desirable; (3) reducing the spread of noxious weeds and controlling noxious weeds where present; (4) seeding of livestock and wildlife forage species, considering desirability of seeding palatable and non-palatable forage species and species competitive with tree production; and (5) livestock-wildlife conflicts, i.e. restrict domestic sheep grazing on Bighorn sheep range.

5. Table 4.15 (Allowable Use of Available Forage, Riparian Areas) and Table 4.16 (Allowable Use of Available Forage, Suitable Range Except Riparian Areas) the standards for utilization which will be used in preparing allotment plans in both riparian and other areas to be grazed:

Table Chapter 2 .1:Allowable Use of Available Forage in Riparian Areas

TABLE 4.15
ALLOWABLE USE OF AVAILABLE FORAGE 1/
RIPARIAN AREAS
(Percent)

Range Resource Management Level (FSH 2209.21 R-6)	Maximum annual utilization Grass & Grasslike 2/ Satisfactory Condition 4/	Unsatisfactory Condition 5/	Shrubs 3/ Satisfactory Condition 4/	Unsatisfactory Condition 5/
B - Livestock use managed within current grazing capacity by riding, herding and salting. Cost-effective improvements used only to maintain stewardship of range.	40	0-30	30	0-25
C - Livestock managed to achieve full utilization of allocated forage. Management systems designed to obtain distribution and maintain plant vigor include fencing and water development	45	0-35	40	0-35
D - Livestock managed to optimize forage production and utilization. Cost-effective culture practices improving forage supply, forage use and livestock distribution may be combined with fencing and water development to implement complex grazing systems.	50	0-40	50	0-35

1/This will be incorporated in Allotment Management Plans. Allotment Management Plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet objectives for the riparian dependent resources. Includes cumulative annual use by big game and livestock.
2/Utilization based on percent removed by weight.
3/Utilization based on incidence of use, weight, and/or twig length. Example: If 50 leaders out of 100 are browsed, utilization is 50%.
4/Satisfactory Condition - see glossary (satisfactory condition is determined by allotment classification and/or forage condition).
5/Unsatisfactory Condition - see glossary (anything not "satisfactory").

Table Chapter 2 .2:Allowable Use of Available Forage in Suitable Range Except Riparian Areas

TABLE 4.16
ALLOWABLE USE OF AVAILABLE FORAGE 1/
SUITABLE RANGE EXCEPT RIPARIAN AREAS

	Maximum annual utilization (percent) 2/					
	Forest		Grassland		Shrublands	
Range Resource Management Level (FSH 2209.21 R-6)	Satisfactory Condition 3/	Unsatisfactory Condition 4/	Satisfactory Condition 3/	Unsatisfactory Condition 4/	Satisfactory Condition 3/	Unsatisfactory Condition 4/
B - Livestock use managed within current grazing capacity by riding, herding and salting. Cost-effective improvements used only to maintain stewardship of range.	40	0-30	50	0-30	40	0-25
C - Livestock managed to achieve full utilization of allocated forage. Management systems designed to obtain distribution and maintain plant vigor include fencing and water development.	45	0-35	55	0-35	45	0-30
D - Livestock managed to 4/ optimize forage production and utilization. Cost-effective culture practices improving forage supply, forage use, and livestock distribution may be combined with fencing and water development to implement complex grazing systems.	50	0-40	60	0-40	50	0-35

1/This will be incorporated in annual operating plans and Allotment Management Plans. Allotment Management Plans may include utilization standards which are either lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource objectives. Includes cumulative annual use by big game and livestock.
2/Utilization based on percent removed by weight for grass, grasslike, and forbs.
3/Satisfactory condition - See glossary (satisfactory condition is determined by allotment classification and/or forage condition).
4/Unsatisfactory condition - See glossary (anything not "satisfactory").

TIMBER

1. Uneven age silvicultural systems will be favored in perennial riparian areas and foreground or middleground areas with a visual quality objective of Retention or Partial Retention. Generally, even-age silvicultural systems will be favored in areas with a visual quality objective of Modification or Maximum Modification.

2. All vegetative manipulation such as harvests, thinnings, release, planting, salvage, brush control and stand conversion will be prescribed by a certified silviculturist. Direction for tying silvicultural prescriptions to management direction is contained in Appendix E, FEIS.

3. Harvest of timber stands will generally occur at or beyond 95 percent of Cumulative Mean Annual Increment (CMAI). Exceptions to this will be permitted where it can be shown that overall multiple use objectives will be better attained or for the use of sound silvicultural practices for thinning and other stand improvement practices, salvage or sanitation harvesting for flood, fire, windthrow, or stands that are in danger from insect or disease attack.

4. Region Six Regional Guide for the Pacific Northwest Region Standard and Guide 4-2 will be followed for utilization standards. Standards in timber sale contracts may vary depending on markets and costs of harvesting.

5. If minimum stocking or better is not found on a site by the fifth year after site preparation occurs, the site will be planted unless natural regeneration is imminent.

6. Mature lodgepole pine stands will be given priority for treatment because of the high risk of mountain pine beetle attack.

7. Genetically improved planting stock will be developed through the superior tree/seed orchard program.

8. Numbers of trees growing on regenerated harvest areas will be controlled using a variety of methods.

9. Provide for and promote firewood gathering by the public. Availability of firewood will be governed by resource objectives such as the needs of snag-dependent wildlife, soil conditions, and access. Consider firewood removal in road management decisions and timber sale design.

Size and Dispersal of Openings and State of Vegetation

1. Forest openings created by the applications of even-age harvest cutting methods shall be limited to a maximum size of 40 acres. Exceptions are permitted for natural catastrophic events (such as fires, windstorms, or insect and disease attacks) or on an individual basis after a 60-day public notice period and review by the Regional Forester. In addition, the limits may be exceeded by as much as 50 percent without

necessitating review by the Regional Forester or 60 days public notice when exceeding the limit will produce a more desirable combination of net public benefits and when any one of the following four criteria is met:

a. When a larger created opening will enable the use of an economically feasible logging system that will lessen the disturbance to soil, water, fish, riparian resources, or residual vegetation. Such lessening is to be achieved by reducing landing or road construction, by enabling such construction away from unstable soil, or by reducing soil and vegetation disturbance caused by dragging logs.

b. When created openings cannot be centered around groups of trees infected with dwarf mistletoe or root rot and therefore need to be expanded to include these trees in order to avoid infection of susceptible adjacent conifers.

c. When visual quality objectives require openings to be shaped and blended to fit the landform.

d. When larger openings are needed to achieve regeneration objectives in harvest areas being cut by the shelterwood method and where destruction of the newly created stand would occur as a result of delayed removal of shelter trees. This exception applies only to existing shelterwood units and to shelterwood units under contract prior to approval of the Forest Plan.

2. Created openings will be separated by blocks of land that generally are not classed as created openings and that contain one or more logical harvest units. These areas shall be large enough and contain a stand structure appropriate to meet resource requirements of the Forest Plan. Resource requirements may include wildlife habitat, watershed, landscape management, and others. Contiguous harvest units (cornering or otherwise touching) are not precluded, but must be considered as a single opening which must be created within requirements for size, exception procedures, and justification.

   The total area of created openings contiguous to 30-acre or larger natural openings should normally not exceed one-third the size of the natural opening and not occupy more than one-third of the natural opening perimeter. Openings should not be created adjacent to any natural openings (regardless of size) unless adequate vegetation along the edge can be developed or retained in sufficient density to protect wildlife and visual management objectives. The determination of adequate vegetation will be made by an appropriate interdisciplinary team.

3. A harvested area of commercial forest land will no longer be considered a created opening for silvicultural purposes when stocking surveys, carried out in accordance with Regional instructions, indicate prescribed tree stocking that is at least 4-1/2 feet high and free to grow. When other resource management considerations (such as wildlife habitat, watershed needs, or visual requirements) prevail, a created opening will no longer be considered an opening when the vegetation in it meets a particular management objective stated in the Forest Plan. For example, the objectives for a specified big-game winter range might require trees to be 20 feet tall before the adjacent stand may be harvested. In other instances, entry may be made sooner to meet specific resource or management requirements.

SOIL, WATER, AND AIR

1. National Forest System lands will be managed under the principles of multiple use and sustained yield without permanent impairment of land productivity.

    a. The total acreage of all detrimental soil conditions should not exceed 20 percent of the total acreage within the activity area including landings and system roads. Consider restoration treatments if detrimental conditions are about 20 percent or more of the activity area. Detrimental soil conditions (see Glossary, FEIS) include compaction, puddling, displacement and severely burned soil.

    b. Skid trail requirements must be specified in timber sale contracts that require tractor yarding.

    c. Identify areas of high soil erosion or mass failure potential and evaluate probable impacts of resource development.

    d. Retain organic matter to maintain site productivity.

2. Municipal Supply Watersheds (See Glossary, FEIS) will be managed to provide water at a level of quality and quantity which, with appropriate treatment by the purveyor, will result in a satisfactory and safe water supply, recognizing that watershed protection can supplement but not be a substitute for adequate treatment.

    a. Meet Washington State water quality standards for surface water.

    b. Developed recreation facilities are not appropriate unless necessary to protect the water resource.

    c. Pesticide use will be coordinated with the local municipality.

    d. Range management practices will be adjusted as necessary to meet State water quality standards.

    e. Plans for exploration and development of mineral resources will include reasonable, operationally feasible provisions to protect riparian values and meet State water quality standards.

    f. Stabilize road surfaces, where needed, with crushed rock to minimize erosion and sedimentation.

    g. Appropriate wildfire suppression responses will be consistent with water resource objectives.

    h. Prescribed fire (planned ignitions) may be used where water resource objectives can be maintained.

3. Comply with State requirements in accordance with the Clean Water Act for protection of waters of the State of Washington (Washington Administrative Code, Chapters 173-201 and 202) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act, regulations, and federal guidance issued thereto.

   In cooperation with the State of Washington, the Forest will use the following process:

   a. Select and design BMPs based on site-specific conditions, technical, economic, and institutional feasibility, and the water quality standards for those waters potentially impacted.

   b. Implement and enforce BMPs.

   c. Monitor to ensure that practices are correctly applied as designed.

   d. Monitor to determine the effectiveness of practices in meeting design expectations and in attaining water quality standards.

   e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected.

   f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level. Evaluate the appropriateness of water quality criteria for reasonably assuring protection of beneficial uses. Consider recommending adjustment of water quality standards.

   Use the existing agreed to process to implement the State Water Quality Management Plan on lands administered by the USFS as described in Memorandum of Understanding (MOU) between the Washington Department of Ecology and U.S. Department of Agriculture Forest Service (7/79), and "Attachment A" referred to in this MOU (Implementation Plan for Water Quality Planning on National Forest Lands in the Pacific Northwest 12/78).

   For a more complete explanation of the above, refer to Appendix G in the FEIS, "Best Management Practices".

   Individual, general Best Management Practices are described in General Water Quality Best Management Practices, Pacific Northwest Region, 11/88. This provides guidance but is not a direction document. Also included in that document is a description of the process, and limitations and use of these BMPs. Each BMP listed includes the Title, Objectives, Explanation, Implementation and Responsibility, and Monitoring. Evaluations of ability to implement and estimated effectiveness are made at the project level.

   Not all of the general BMPs listed will normally apply to a given project, and there may be specific BMPs which are not represented by a general BMP in this document.

The sensitivity of the project determines whether the site-specific BMP prescriptions are included in the Environmental Assessment/Environmental Impact Statement , the sale/project plan, or the analysis files.

4. Instream flow on National Forest System Lands should be protected through site specific analysis of proposed water uses, diversions, and transmission applications in accordance with the National Environmental Policy Act, 1969 (NEPA) and renewal of permits. Protection of instream flow needs may be achieved through filing protests with states where applications are made that adversely affect National Forest resources, asserting claims for this water under Federal or State laws where applicable, inserting protection measures into special use permits, or reaching formal agreements over use. Purchase of water rights and impoundments are other means for reducing these impacts.

5. In watersheds where project scoping identifies an issue or concern regarding the cumulative effects of activities on water quality or stream channels, a cumulative effects assessment will be made. This will include land in all ownerships in the watershed. Activities on National Forest System lands in these watersheds should be dispersed in time and space to the extent practicable, and at least to the extent necessary to meet management requirements. On intermingled ownerships, coordinate scheduling efforts to the extent practicable.

6. Revegetate, cut and fill slopes, and other large areas of disturbed soil as quickly as possible with vegetation suitable for the management goals of the area.

7. Where dust abatement is necessary on forest roads, avoid contamination of water courses.

8. Protect cooperative snow courses as required by current agreement with the Soil Conservation Service. Existing sites include: Summit G.S., Butte Creek, Goat Creek, Chewelah, Baird, and Bunchgrass Meadows.

9. Management activities within the Forest will be planned to maintain air quality at a level adequate for the protection and use of the National Forest resources, and which meets or exceeds applicable Federal and State standards and regulations.

    a. The Forest will coordinate with the appropriate air quality regulatory agencies.

    b. The Forest will demonstrate reasonable progress in reducing total suspended particulate (TSP) emissions from prescribed burning.

    c. All prescribed burning will be planned and conducted in accordance with State smoke management plans.

    d. Considerations will be given to the use of the mitigating measures listed in the FEIS for the Pacific Northwest Regional Guide to reduce emissions from prescribed burning.

    e. The best available predictive methods and models and the most cost-efficient technology will be used to minimize the impact of prescribed burning on smoke sensitive areas and Class I areas.

f. The Forest air resource will be protected against pollution sources outside Forest boundaries through application of the Prevention of Significant Deteriorations (PSD) regulations contained in the Clean Air Act. Special protection will be afforded Air Quality Related Values (AQRVs) found in Class I Wildernesses. Information on both PSD and AQRVs is available in the Air Resource Management Handbook.

RIPARIAN

1. Special attention shall be given to land and vegetation for approximately 100 feet from the edges of all perennial streams, lakes and other bodies of water. This area shall correspond to at least the recognizable area dominated by the riparian vegetation. No management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment shall be permitted within these areas which will seriously and adversely affect water conditions or fish habitat.

2. Emphasize protection and improvement of soil, water, vegetation, fish, and wildlife resources while managing the riparian areas under the principles of multiple use and sustained yield. Give preferential consideration to riparian dependent resources when conflicts among land use activities occur. These areas will be managed by the Streamside Management Unit (SMU) use classification, where practices that might affect water quality, fish and other aquatic resources are modified to meet water quality goals established for each class of stream (see Appendix G of the FEIS). The riparian areas associated with wetlands will be managed as Class I SMUs.

   a. Minimize developed recreation facilities within riparian areas while protecting riparian dependent resources. All sanitary facilities will meet State and Federal standards. Dispose of solid waste in accordance with State and Federal disposal standards.

   b. Off-road vehicle use is restricted to essential crossings.

   c. Maintain and improve the habitat of fish and aquatic and terrestrial wildlife. Maintain the general character of the aquatic and terrestrial habitats. Natural debris, plus trees needed for a future supply, will be maintained and managed to: (1) maintain or enhance stream channel and bank structure so as to maintain or enhance water quality in SMU Class I and II streams, and (2) provide structural fish habitat to meet the objective (resident fish populations) provided for in the Forest Plan.

   d. Allow grazing utilization of no more than 50 percent of the current year's forage growth. Allow no more than five percent livestock related bare soil within the riparian area. Develop adequate water sources for livestock outside of the riparian zone.

e. Silvicultural prescriptions and harvest schedules will be designed to meet water quality goals. Uneven-age regeneration systems (individual tree) will be used on Class I, II, and III streams. The largest trees in the stand will be greater than 200 years of age for Class I streams, 120 years for Class II, and 80 years for Class III.

Some trees will be retained for longer periods of time and others will not be harvested, so as to provide for streambank stability, a future supply of large woody debris for stream channels, and fish habitat and stream temperature control. These exceptions will be determined through site-specific assessments.

f. Minimize soil disturbance by not operating during wet periods and through selection of logging systems. Logging debris will be prevented from entering water courses or will be removed.

g. Road construction in riparian zones will be limited to stream crossings unless determined otherwise by site-specific analysis. Numbers of stream crossings will be minimized and they will be constructed to minimize sedimentation and to allow fish passage where appropriate. The needs of native fishes will normally be emphasized over those of introduced ones.

h. Temperatures will not be increased on SMU Class I streams. Temperature increases on SMU Class II (and fish-bearing SMU Class III) streams will be limited to the quantitative criteria in State Standards. Temperatures on SMU Class III and IV streams will not deteriorate water quality below the water quality goals for downstream SMU Class I and II (and fish-bearing SMU Class III) streams. Exceptions must be based on scientific rationale, fully maintain existing beneficial uses of the water, and be approved through an Environmental Assessment.

i. Meet the requirements of Executive Orders: 11988, Floodplain Management; and 11990, Protection of Wetlands.

3. Identify range allotments with riparian areas in unsatisfactory condition (see glossary), i.e., (1) On suitable range, forage condition is not at least fair, with a stable trend, or (2) Classification is PC or PD.

4. Range allotment management plans will include a strategy for managing riparian areas for a mix of resource uses. A measurable desired future riparian condition will be established based on existing and potential vegetative conditions. When the current riparian condition is less than that desired, objectives will include a schedule for improvement. The allotment management plans will identify management actions needed to meet riparian objectives within the specific time frame. Measurable objectives will be set for key parameters, such as stream surface shaded, streambank stability, and shrub cover. This process is described in "Managing Riparian Ecosystems (Zones) for Fish and Wildlife in Eastern Oregon and Eastern Washington" (1979). The allotment plan will address the monitoring needed to determine if the desired rate of improvement is occurring. Allotment management plans currently not consistent with this direction will be developed or revised on a priority basis under a schedule established by the Forest Supervisor.

LANDS

1. Existing special uses which conflict with management objectives will be modified to comply or will not be renewed.

2. Electronic sites will be permitted when in compliance with management area objectives.

3. Resolve occupancy trespass by using the Small Tracts Act authority. Administrative or legal action will be taken as soon as possible on cases where the Small Tracts Act is not applicable.

4. Accomplish property boundary surveys, posting and marking to support planned or on-going resource projects, solve or prevent trespass, and assist Forest users in identifying public lands. Adjacent landowners will be encouraged to share costs of surveying common boundaries.

5. Access to National Forest System lands will be obtained to meet Forest Plan goals.

6. Private landowners will be granted reasonable access across National Forest System land, subject to applicable regulations and policies. Where reasonable access alternatives across other ownerships exist, authorization to cross National Forest land will generally not be granted.

7. New transportation/utility proposals will be accommodated within existing corridors to the maximum extent feasible. Additional corridors needed for major utilities or highways will be designated through an interagency environmental analysis.

8. Disturbance from the construction of utility facilities (electric, phone, water, and gas lines) will be promptly rehabilitated.

LANDOWNERSHIP ADJUSTMENT

1. Coordinate landownership adjustment planning with Washington State Department of Wildlife, Washington State Department of Natural Resources, Colville Confederated Tribes, Kalispel Tribes and county governments.

2. Where possible, balance acreage of Federal and non-Federal lands to be exchanged within the same county in order to minimize effects on payments to the counties.

TRANSPORTATION

1. Provide and maintain public road and trail access to National Forest System lands. User safety will be the primary emphasis.

2. Road construction and reconstruction standards will be the minimum necessary to meet user and resource needs.

3. Coordinate transportation planning and road management with state and local agencies and intermingled landowners.

4. Accommodate the demand by the public for access into firewood gathering areas where possible, consistent with management area goals.

5. Implement seasonal or long-term road and area closures where necessary to:
   - Protect public safety.
   - Protect resource values such as threatened and endangered wildlife species and their habitat, cultural resources, soil and water quality, and wildlife.
   - Prevent damage to the road system.
   - Comply with cost share agreements.
   - Protect non-public use facilities (e.g., microwave or weather stations).
   - Eliminate traffic on single purpose roads after the activity is completed to reduce road maintenance costs.

6. New single-purpose Service Level D roads will be closed after the resource activity is complete unless the environmental assessment requires keeping them open. The road management objectives will be used to document the decision.

7. Unless the necessity for a permanent road is set forth in the Forest Development Road System Plan, any road constructed shall be designed with the goal of reestablishing vegetative cover on the roadway within ten years after the termination of the contract.

8. Develop and implement a forest-wide travel management schedule.

MINERALS

1. The laws and related regulations shall be administered to facilitate the discovery and development of mineral resources; at the same time, the goal is to achieve the fullest practicable coordination with the surface resources.

2. Under the mining law, claimants are entitled to access to their mining claims. Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan. A decision on approval of reasonable access will be made as a result of appropriate environmental analysis.

3. During development of operating plans, or plan modifications, reasonable alternative mitigation measures and/or operating requirements and stipulations will be developed to define the minimum stipulations needed to best protect other resources while still meeting the objectives of the mineral operator. The test for operating plan requirements is "reasonableness."

4. Reasonable reclamation objectives and standards will be developed through an interdisciplinary process. This includes consideration of reasonable opportunities to enhance other resources. Concurrent reclamation will be stressed. Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource input.

5. Mining claim location corners and improvements will be protected during Forest Service management activities.

6. Avoid or minimize Forest management related investments where conflicts with existing or foreseeable mineral activities could conflict with those investments.

7. Minimize the National Forest acreage to be withdrawn from mineral entry to that necessary for protecting dedicated areas such as developed recreation sites, wilderness, Research Natural Areas, and administrative sites.

8. Provide common variety minerals and materials if consistent with the management area direction. Authorize common variety exploration and removal under terms and conditions to prevent, minimize, or mitigate adverse impacts on surface resources and uses. The objective of reclamation requirements will be to return disturbed land to the planned uses.

9. Mineral lease applications or proposals will be reviewed in a timely fashion. Require appropriate special lease stipulations when necessary to protect surface resources and/or sustain the management area direction. Required measures and conditions for surface resource protection will be provided to the Bureau of Land Management.

COMMUNITY STABILITY AND HUMAN RESOURCES

1. All human resource programs sponsored by local, state and federal governments, and the volunteers in the National Forest program will be utilized where the opportunity arises based on funding and personnel needs.

2. The Forest shall continue to make positive efforts to gain strength through diversity and obtain a diverse work force by 1995.

INDIAN RIGHTS AND CLAIMS

The ceded land rights and privileges of the Colville Confederated Indian Tribes will be considered and appropriately provided for in all Forest activities.**1**/

FIRE MANAGEMENT

Wildfire Response

1. All wildfires will receive an appropriate suppression response. This response and the associated fire suppression strategies will be the most cost effective commensurate with land management objectives for the area on which wildfire occurs.

2. Apply aggressive suppression action to wildfires that threaten life, private property, public safety, improvements, or investments.

3. In most cases, when wildfires do not threaten to exceed acceptable sizes and intensities for the management areas, the lowest cost suppression option is appropriate.

4. If a wildfire escapes initial action and threatens to exceed established limits, an escaped fire situation analysis shall be prepared. This analysis weighs the cost of suppression against the resource potential losses. Suppression actions should be appropriate for the values threatened, even on escaped fires.

Presuppression (NFMAS)

1. Forestwide planning will utilize the National Fire Management Analysis System to determine the most cost-efficient fire protection organization. As conditions change and better information is developed, the fire organization will be reevaluated with this system.

2. Cost-effective plans for the prevention of human-caused fires will be aimed at specific risks determined by ongoing monitoring of current and recent fire reports.

1/ With the Executive Order which established the Colville Reservation in 1872, tribal members were given specific rights. Among those rights are hunting and fishing. An Act of July 1, 1892, restored the north one-half of this reservation to public domain. All of the Colville National Forest west of the Columbia River was included in this tract. However, the U.S. Supreme Court in the Antoine Decision of 1975 determined that the tribal members' rights to hunting and fishing were retained through this transaction. These rights will be considered through management of appropriate resources such as fish, wildlife, and riparian areas.

3. The mix of aerial and ground detection activities will be reviewed periodically to maintain the most cost-efficient combination.

4. Provide equipment and training for USDA Forest Service employees outside of the fire management organization to assist in initial attack.

Fuel Treatment

1. Alternative methods of treatment for activity residues (logging slash) and natural fuels will be addressed in project-level planning and will be commensurate with resource management objectives.

2. Burning plans will be prepared in advance of ignition and approved by the appropriate line officer for each prescribed fire. Burning plans will define what an escaped fire is. A fire that escapes will be declared a wildfire and an escaped fire situation analysis will be prepared.

3. Normally, prescribed fire will be by planned ignition. Unplanned ignitions may be used as prescribed fires if: 1) a prescribed fire plan has been prepared and approved; 2) the fire is burning within prescription; and 3) there are enough resources available to provide the staffing and funding necessary to carry out the existing prescribed fire plan.

4. All fuel treatments will conform to air quality guidelines.

5. Provide for retention of the kind and amount of residues needed on-site for the benefit of multiple resources (soil, water, wildlife).

6. Recognize the social and economic values of and provide for individual firewood gathering.

7. The following fire hazard reduction applications should be considered:

   a. **Utilization:** Harvest techniques such as top yarding, improved utilization methods identified in mill operation and log manufacturing studies, and residue treatment methods that optimize firewood use.

   b. **Rearrangement:** Fuels may be redistributed on-site to a less hazardous condition or one which produces faster deterioration or removal.

   c. **Removal:** **F**uels may be moved off-site for use, storage, or disposal.

   d. **Disposal:** The reduction or elimination of fuels by prescribed burning or manual, mechanical, chemical, or biological means.

e. **Conversion:** Replacing flammable with less flammable vegetation.

f. No reduction.

INTEGRATED PEST MANAGEMENT

1. Integrated pest management strategies will be utilized to manage pests within the constraints of laws and regulations and to meet Forest management objectives. Integrated pest management strategies include manual, mechanical, cultural, biological, chemical, prescribed fire and regulatory means. Strategy selection will be based on environmental analysis and the management objectives of the area where the action is needed.

2. Emphasis will be given to the control and reduction of noxious weed infestations. A variety of management tools are available and will be used to treat prioritized high risk infestations.

FACILITIES

1. Buildings, utility systems, and related facilities should be planned, developed, maintained and operated for safe use, support of the Forest resource programs, and cost effectiveness.

2. The construction of new buildings or additions to existing buildings and utility systems, shall comply with the approved site development plan.

DESIRED FUTURE CONDITION OF THE FOREST

Given the assumptions, allocations and direction of this plan, some conclusions can be drawn regarding what the Colville National Forest will look like in the future. Some changes will occur in the first decade, although it is more likely that it will be several decades before the effects of this management direction are evident across the entire Forest. These statements are considered desired future condition and are not direction statements.

THE FOREST IN TEN YEARS

The overall character of the Forest will be very similar to what it is now with some changes starting to become visible.

Existing developed recreation sites will be properly used within their design constraints. Sullivan Lake Campground will have been expanded to handle increased use of sites around the lake. All sites on the Forest will continue to be programmed for reconstruction or rehabilitation of existing facilities; existing sites will be maintained at an acceptable level. More sites will be placed under the fee system with fees adjusted to adequately recover maintenance costs. Developed site services, such as garbage facilities, drinking water, and paved roads, will be balanced with public demand.

The majority of dispersed recreation use will continue to occur on or near roads or high standard trails.

The existing trail system will be expanded based upon public demand. More emphasis will be placed on loop trails and trails providing day hikes. Trails will be constructed and maintained to the standard appropriate for the Recreation Opportunity Spectrum class in which they are located. Additional trailheads will be in place. Trails within active project areas, like timber sales, will be retained for future use.

Winter recreation will play a important role on the Forest. The existing nordic (cross-country) trail system will be expanded by 20 to 30 percent. The Forest will continue to cooperate with Spokane, Stevens, and Ferry Counties to have 200 to 300 miles of Forest roads groomed for snowmobile use. The permit for 49 Degrees North Ski Area will be expanded to provide facilities to meet demand.

The Forest will have become active in several joint "partnership" efforts with different agencies and publics. A wide variety of recreation opportunities will be provided, at a low unit cost, to meet demand.

The principal access roads will be readily identifiable. They will have paved or gravel surfaces and will look suitable for passenger car use. Signs will be in place assisting the traveler to find their destination. Other roads will appear less inviting for use, looking rough or primitive, but most will be available for use by the more experienced traveler. Approximately 25 percent of the roads will be closed.

Semi-primitive non-motorized and semi-primitive motorized areas, as shown, will be maintained without any intrusions.

The National Forest portion of the Kettle River will retain it's characteristics which will make it eligible for inclusion in the Wild and Scenic River System.

Visually, the Forest will appear much as it does today especially along the important travel corridors. These corridors include all federal and state highways and many Forest roads and were shown in MA 3A. All inventoried viewsheds will be managed to maintain their scenic qualities. Timber harvest practices, in visual retention areas, will consist of uneven-age management, which has the quality of being unobtrusive or subservient to the visual landscape. Some landscapes will be enhanced by opening views to ranges such as the Kettle Crest and Abercrombie-Hooknose. Those lands outside of the inventoried viewsheds and undeveloped areas will be managed with an objective of modification or maximum modification.

The Salmo-Priest Wilderness will continue to meet the attributes of a wilderness area.

Eight Research Natural Areas will be included in the system.

Big game winter range, as shown in the Forest Plan will be managed for big game winter habitat.

East of the Pend Oreille River, winter range will be managed primarily for elk, except the area used by, and managed for, Rocky Mountain bighorn Sheep.
West of the Columbia River, winter range will be managed for mule deer, with concurrent emphasis on California bighorn sheep within their range in the Little Vulcan Mountain area. Between the Columbia and Pend Oreille Rivers, winter range will be managed for white-tailed and mule deer, with emphasis on mountain goats within their range in the Linton/Flume Mountain area.

Management for moose will increase due to the expansion of their range. Black bear and mountain lion will occur in sufficient numbers to continue as popular hunting attractions. Some black bear control will be required where unacceptable resource damage or recreation conflicts occur.

Management activities will meet or exceed management requirements for fish and wildlife. Much of the land in Wilderness, Research Natural Areas, and Semi-primitive Non-motorized Management Areas will provide habitat for species that use mature and old growth forests.

Habitat diversity will be evident through the Forest; it will include old growth and mature timber in three to six hundred acre units. Many of the old growth and mature units will be connected by uneven-aged stands of trees. In riparian areas and areas where visual management is being emphasized these visual management areas will provide travel corridors for old growth dependent species.

Habitat diversity will be evident throughout the Forest; it will include old growth and mature stands in three to six hundred acre units. Many of the old growth and mature units will be connected by uneven-aged stands of trees in riparian areas and areas where visual management is being emphasized. These visual management areas will provide travel corridors for old growth dependent species.

Snags, defective trees, and large down material will be sufficient to support at least 60 percent of the potential population of all native woodpeckers on commercial forest land. Through achieving Forestwide standards and guidelines, habitat for northern three-toed woodpeckers will be maintained. Lodgepole pine stands will be managed on a rotation that provides a well distributed, continuous supply of all age classes to insure perpetuation of habitat for Franklin's grouse (young stands) and three-toed woodpeckers (old stands).

Blue grouse winter habitat will be maintained in park-like or open timber on or near ridgetops. Mature, limby, Douglas-fir or subalpine fir will be maintained at eight or more trees per acre, either individually or in clumps. Hiding cover standards will be met.

Habitat capability for waterfowl and beaver will increase through habitat improvement and development.

Native fish species will be encouraged with the objective of restoring populations of native trout to selected forest streams and lakes. Introduced species will continue to enhance angling in locations where they provide a superior fishery. Stream crossings of Class I and II streams will be minimized. Stream crossing structures will be designed to provide the least resistance to upstream fish passage. Bridges or bottomless arches will be used instead of culverts that cannot be installed to allow passage of native trout. Drainage from roads and ditches will be successfully dispersed prior to entering streams.

Special or unique habitat components required by sensitive or other specific plants or animals (i.e., large raptors, great blue heron, and northern bog lemming) will be retained in sufficient quantity and quality to insure that viable populations of the dependent species continue throughout their range in the planning area.

Threatened and endangered species (woodland caribou and grizzly bear) will be recovering and on an upward trend in their identified recovery areas. Bald eagle nesting will be encouraged on the Forest.

Livestock grazing will be more intensively managed. Livestock use will stay within the established use rates. Permittee control will be at an adequate level and, overall, more intensive management systems will be employed. All allotments will emphasize riparian habitat protection and/or recovery.

The average annual timber sale volume in the first decade will approach 28.69 MMCF or approximately 123.4 MMBF. Programmed harvest will occur on approximately 10.88 thousand acres annually during the first decade. Timber harvest will meet the objective of the individual management prescription areas.

Even-age management will be prevalent on MAs 7 and 8, and will be present in combination with uneven-age management on MAs 2, 5 and 6. Uneven-age management will be prevalent in riparian areas, MA 3A and visible portions of MAs 5 and 6. During the first decade, single tree selection will become evident along Class I - III streams. Foreground areas of MA 5 and 6 will also have single tree selection as well as small group selection cutting.

Harvest unit sizes will vary to meet the objectives of the management area. Even-age regeneration cuts will normally not exceed 40 acres on MA 7, but will be in the range of 10-20 acres on winter range. The result is that, in ten years, cutting units will reflect much more variability in terms of unit size and residual trees left standing.

Insect and disease problems in mixed conifer stands will be reduced in MA 7 Areas but will likely still be visible in other MA's. The occurrence and spread of noxious weeds will be reduced as a result of integrated pest management.

Moderate levels of wood waste will be made available to the public for woodcutting. Availability of fuelwood will be consistent with other resource management objectives.

An increasing supply of pulpwood material will be made to meet the demands of the Usk paper mill. This supply will primarily be coming from unmerchantable material. Considerable benefit in stand improvement and fuels management will be received.

Water quality will remain high with quantity increasing slightly. A monitoring program will be in effect to insure that water quality standards are met. Riparian areas will be stable and show some evidence of uneven-age harvest, without any resource conflicts.

THE FOREST IN FIFTY YEARS

The overall character of the Forest will continue to improve.

Additional developed recreation sites will be added and existing sites will have had some major reconstruction and design changes to facilitate public needs and meet demand. Most sites will be under a fee structure with maintenance costs being recovered.

The principle road systems will be complete with improved or paved surfaces.
Other roads will be closed or available for use by seasoned forest travelers using high clearance type vehicles. Approximately 34 percent of the roads will be closed.

Dispersed recreation use will have increased substantially. A much larger trail system will be in place and most trails will show significant public use. New trailheads, functional for more user types, will be in place. Loop trails, designed for day hikes, will include interpretative features. Recreation use will not be in conflict with other resource uses.

Winter recreation will have increased in importance and more designated trails, routes and trailhead facilities will be available. The 49 Degrees North Ski Area will have been expanded to maintain competitiveness and accommodate increased demand.

The Forest will continue to provide highly diverse recreation opportunities for all users and continue to maintain and develop "partnerships" to reduce costs and to provide increased diversity of uses.

Semi-primitive non-motorized and semi-primitive motorized areas, as originally identified, will be maintained to retain their ROS. No permanent road intrusions will have occurred in the Semi-primitive Management Areas.

Visually, the areas along the primary travel routes and riparian areas will be very pleasing and will appear as stands with a mixture of tree sizes. Areas more secluded from major travel ways will consist of even-age stands with most areas showing some indication of timber cutting.

Forested wildlife habitat will consist of vegetation with trees 0-70 years old being managed under even-age management prescriptions. Vegetation managed under uneven-age prescriptions will consist of varied age stands with scattered individual trees up to 220 years old. Approximately 60 old growth stands will be scattered throughout the above areas. These will vary in size from 300 to 600 acres. Uneven-aged stands will connect some of these areas along travelways and riparian areas. Other old growth will be present in the Wilderness, Research Natural Areas, some of the lands unsuitable for commercial timber harvest, and other areas managed under extended rotations to protect management indicator species such as marten and pileated woodpeckers.

The importance of wildlife continues to grow and more emphasis will be placed on all game and non-game species. Forestwide, habitat capabilities will generally be improving.

Values of fisheries will continue to grow both on and off the Forest. Riparian values will be well recognized.

Riparian areas will be occupied by diverse, healthy plant communities and water quality will consistently exceed state standards. Water quantity may increase slightly.

Timber harvest will meet projected yields. Acres of harvest, by type, will be very close to projections. Overall, timber management will be more intensively conducted and the returns to the government will be higher. Standard and Guidelines will be met. Generally, insect and disease problems will have been reduced. Past investments in intensive management and superior trees will be showing benefits through improved yields and high quality of wood fiber. Overall, the Forest will have a more managed appearance. The Forest will have a complex mosaic of stands of varying ages, densities and sizes with interspersed stands of uneven-aged trees, even-aged trees, and stands of old growth trees.

MANAGEMENT PRESCRIPTIONS

Management prescriptions provide the multiple-use direction for managing specific areas of land called management areas. Each management prescription contains: (1) emphasis, (2) management goal, (3) description, and (4) resource and activity standards by resource element.

Management practices and the prescriptions are implemented within the previously described Forestwide Standards and Guidelines. The management prescriptions, together with the accompanying Alternative G-M map, identify what and where activities will take place during implementation of this Forest Plan. Table 4.17 displays management areas and their acreages.

Table Chapter 2 .3: Management Areas by Acres

TABLE 4.17

MANAGEMENT AREAS BY ACRES

Management Area	Acres
1	30,741
2	29,460
3A	37,162
3B	11,967
3C	2,004
4	3,626
5	222,209
6	76,074
7	427,672
8	125,014
9	30,613
10	13,973
11	85,247
Total **1**/	1,095,764

1/ The total acreage shown does not include 256 acres of water on National Forest System lands which is not allocated to a management area.

MANAGEMENT PRESCRIPTION: 1

EMPHASIS: Old Growth Dependent Species Habitat

MANAGEMENT GOAL: Provide essential habitat for wildlife species that require old growth forest components, and contribute to the maintenance of diversity of wildlife habitats and plant communities.

DESCRIPTION: A variety of wildlife and other organisms are dependent on habitat components of old growth forest that are not found in sufficient quantity in managed timber stands. A distribution of old growth successional stages is necessary to maintain diversity within managed forests. A discussion of these components is found in Appendix F of the FEIS.

Resource Element	**Resource/Activity Standards and Guidelines**
RECREATION	
Visual Management	A range of visual quality objectives will be consistent with management objectives for the area.

Dispersed Recreation Areas will be managed to provide dispersed recreation opportunities such as hiking, bird watching, and hunting that are compatible with maintaining species habitat.

Manage for a Semi-Primitive Non-Motorized recreation setting. A Semi-Primitive Motorized ROS class may be allowed when compatible with maintaining integrity of habitat.

Existing non-motorized trails and trail use will be permitted in these areas.

Off-Road Vehicles Off-road vehicle use will be discouraged. Closures may be implemented as needed.

WILDLIFE AND FISH

Habitat Improvement Management will be toward preservation of stands which provide habitat suitable for old growth dependent species. Size of stands, distribution and gross stand structure and conditions will be defined for the barred owl management indicator species. Some vegetative manipulation may be used to improve habitat characteristics.

Old growth management areas will be at least 600 acres in size. They may be managed as a whole or separated into a "core area" and "foraging areas." Core areas are delineated on planning maps and allocated to Management Area 1. They will consist of old growth forest in a contiguous unit of 300 acres or more, the units being generally no more than twice as long as wide. General crown closure will be 60-100 percent (greater than 80 percent preferred) with relatively open understory.

Foraging areas will be of sufficient acreage when added to the core area to make the total size of the management area 600 acres. The foraging areas will be stands of mature or old growth trees (dominated by other than lodgepole pine) of 30 to 300 acres or more, within 0.4 mile of the perimeter of the core area. General crown closure will be 60-100 percent (greater than 80 percent preferred) with relatively open understory.

Snags and understory logs will be retained at their natural density within the core areas unless they become so dense that they degrade the habitat or become an unacceptable hazard. Within the foraging areas snags and understory logs will be maintained in, at least, sufficient numbers to provide habitat for 100 percent of the potential population of primary cavity excavators.

Habitat improvements for species dependent on components of mature and/or old growth forests are encouraged.

To improve habitat, Management Area 1 boundaries may be adjusted or the unit moved to the nearest suitable location.

RANGE

Range Management Range management practices may be adjusted, if needed, to meet old-growth habitat objectives.

TIMBER

Timber Harvesting No scheduled timber harvest is permitted.

Salvage of blowdown, and fire, insect, or disease killed timber will not be allowed unless the mortality is severe enough to have eliminated the use of the area as old growth habitat.

MINERALS

Minerals Management Operating plans for mineral resource exploration and development will include reasonable requirements designed to protect old growth wildlife habitat.

Saleable mineral disposal and storage sites are not allowed within the core area.

Leases for oil, gas, or other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Land Ownership Adjustment Favor retention of National Forest System lands and acquire private lands as opportunities occur.

Special Uses Special use permits may be issued for compatible uses.

Grant rights-of-way to landowners when other access alternatives are not reasonable.

FACILITIES

Roads Roads will be built within old growth units only when other reasonable alternatives do not exist. Road construction and reconstruction activity will be restricted during the breeding period, February 1 - June 30.

Road closures may be necessary to preserve the standing dead and down timber component.

Trails Existing trails may be maintained. New trails are permitted if beneficial to wildlife habitat. Trail construction and reconstruction activity will be restricted during the breeding period, February 1 - June 30.

Utility Corridors Avoid locating utility corridors in this management area.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires. If habitat needs are destroyed, Old Growth Management Area boundaries will be adjusted or the unit moved to the nearest suitable location.

Prescribed Fire Planned ignition may be used as a means of achieving old-growth habitat objectives.

Insect & Disease Control Suppress insect and disease outbreaks which threaten the wildlife habitat objective.

MANAGEMENT PRESCRIPTION: 2

EMPHASIS: Caribou Habitat

MANAGEMENT GOAL: Manage woodland caribou habitat to provide sufficient suitable seasonal habitat to support the Colville National Forest portion of a fully recovered population as specified in the Caribou Recovery Plan.

DESCRIPTION: This Management Area includes year-long caribou habitat components consisting of spring range (cedar/hemlock valley bottoms as low as 4300 feet); summer/fall range (spruce/fir side hills and basins); early winter range (old growth cedar/hemlock); and late winter range (high elevation spruce/fir ridges and peaks).

(Note: Caribou Habitat Management Guidelines are discussed in Appendix I, FEIS)

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	A full range of visual quality objectives is appropriate.

Dispersed Recreation Recreation facilities and/or uses should be compatible with the Semi-Primitive Non-Motorized or Sem-primitive Motorized ROS setting that maintains the integrity of the habitat.

Off-Road Vehicles Implement seasonal or permanent closures when key habitats are located within 1/4 mile of open roads or trail and off-road vehicle activities would adversely effect caribou use of these habitats during the normal season of use. Continue use of present snowmobile route over Pass Creek Pass. Close route if caribou are within three miles of the Pass.

WILDLIFE AND FISH

Habitat Improvement Habitat improvements for other kinds of wildlife are permitted when compatible with the caribou habitat objective.

RANGE

Range Management Livestock grazing allotments and permits are not appropriate. Occasional grazing by recreation livestock is acceptable.

TIMBER

Timber Harvesting Coordinate timber management activities with site specific caribou habitat needs. Permit scheduled timber harvest within restrictions contained in the Caribou Habitat Management Guidelines (Appendix I, FEIS) in summer, late summer/fall, early winter, and spring habitats. Use uneven-age management, as prescribed in the Caribou Habitat Management Guidelines within late winter habitat if appropriate to meet recovery objectives. Prescribe appropriate vegetative treatment necessary to protect or improve other late winter habitat.

Silvicultural Treatments

Design silvicultural prescriptions and harvest schedules to meet caribou habitat requirements (target stand conditions designed to meet seasonal habitat requirements are detailed in the Caribou Habitat Management Guidelines), (Appendix I, FEIS).

Spring Habitat: even-age management. Manage 40 percent of the cedar/hemlock zone within caribou habitat as spring range favoring the south and west aspects. Maintain approximately 1/4 of managed spring range in target stand conditions, as described in the Guidelines, at any time. Use an eighty year rotation.

Summer Habitat: even-age management. Schedule timber harvest so that a minimum of 25 percent of sites capable of providing summer habitat in each Caribou Management Area are maintained in target stand condition at all times. Use a 160 year rotation.

Late Summer/Rut Habitat: uneven-age management. Maintain all-aged stands in target condition of maximized diameter growth within canopy closure limits of 40-100 percent of trees greater than 30 feet in height using a 20 year re-entry cycle.

Early Winter Habitat: uneven-age management. Maintain 60 percent of cedar/hemlock zone in old growth cedar/hemlock cover types within canopy closure limits of 70-100 percent of trees greater than 30 feet in height using a 20 to 30 year re-entry cycle. Favor north and east aspects.

Late Winter Habitat: uneven-age management on lands suitable for timber production, or to improve/protect caribou habitat. Maintain mature to over-mature stand conditions favoring largest trees the site is capable of growing (> 8 inch DBH).

MINERALS

Minerals Management Mineral resource exploration and development activities will include reasonable, operationally feasible requirements designed to protect caribou habitat.

Locate saleable mineral disposal and stockpile sites outside of the management area unless there is no reasonable alternative.

Leases for oil, gas, or other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Land Ownership Adjustment Retain National Forest System lands and acquire private lands as opportunities occur.

Special Uses Special use permits may be issued for compatible uses. Include provisions for protection of caribou and to prevent disturbance that would preclude the animal's use of their essential habitat.

Grant road access to property owners consistent with Section 7 of the Endangered Species Act.

FACILITIES

Roads Limit new road construction to that essential for resource management in areas within or adjacent to caribou habitat. Locate roads to have the least adverse effect on caribou habitat components while still providing access adequate to meet objectives.

Maintain existing roads deemed essential for necessary management, protection, and recreational access into caribou habitat.

Implement temporary or permanent road closures to protect threatened and endangered species and provide seasonal habitats in a secluded condition where key seasonal range adjoins open roads.

Operating season for logging and post sale operations shall be restricted when necessary to protect caribou.

Trails Trail construction and reconstruction is permitted.

Utility Corridors Avoid locating utility corridors in this management area.

PROTECTION

Wildfire Control all wildfires which threaten caribou habitat.

Design initial attack and suppression methods to meet caribou habitat needs.

Prescribed Fire Planned ignitions may be used as a means of achieving caribou habitat objectives.

Emphasize prescribed burning for site preparation following timber activity so as to enhance caribou habitat.

Insect & Disease Control

Prevent or suppress insect and disease outbreaks that are an imminent threat to caribou habitat, in a manner consistent with habitat management objectives.

MANAGEMENT PRESCRIPTION: 3A

EMPHASIS: Recreation

MANAGEMENT GOAL: Provide roaded and unroaded recreation opportunities in a natural appearing setting.

DESCRIPTION: These areas are generally located along main travel routes or recreation lakes within the National Forest where recreationists utilize dispersed and developed sites. Allows users to establish an interest in the natural environment and to develop and test outdoor skills associated with either motorized or non-motorized recreation use with little challenge or risk. The setting for this class of recreation is characterized by an environment where alterations to the environment appear subordinate to the surrounding areas.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	Visual quality objective is Retention or Partial Retention.
Developed Recreation	Recreation facilities should be compatible with the Roaded Natural ROS setting and be managed for development Level 3 and 4 recreation facilities.

Off-Road Vehicles Off-road vehicle use is appropriate only on designated areas or trails.

WILDLIFE AND FISH

Habitat Improvement Recreation use may be restricted in recognized key habitats of threatened and endangered species during periods critical to these species. Habitat improvement is desirable to provide fish and wildlife for recreation use.

RANGE

Range Management If significant conflicts develop between recreation and livestock use, they will be resolved in the favor of recreation use.

Range practices or improvements which concentrate livestock use are not appropriate in this management area.

TIMBER

Timber Harvesting Scheduled timber harvest is permitted outside of developed recreation sites.

Silvicultural Treatments

Uneven-age management systems will be used to support the visual and recreation goals.

Firewood harvest is permitted outside of developed recreation sites.

SOIL AND WATER

Soil & Water Protection When locating recreation sites, mitigate impacts to streams, lakes, aquatic ecosystems, and associated riparian areas.

MINERALS

Minerals Management Mineral resource exploration and development activities will include reasonable, operationally feasible requirements designed to protect high use recreation values.

Locate saleable mineral disposal and stockpile sites outside of the management area unless there is no reasonable alternative.

Leases for oil, gas, or other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Land Ownership Adjustment

Land acquisition and disposal may be appropriate.

Special Uses Special use permits may be issued for compatible uses.

FACILITIES

Roads Access roads to developed sites should be managed to permit passenger car traffic. Roads may be seasonally closed to prevent vandalism.

Trails Trail construction and reconstruction is permitted to provide dispersed recreation opportunities.

Utility Corridors Utility corridors are permitted after site-specific analysis and compliance with NEPA.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires.

Prescribed Fire Planned and unplanned ignitions may be used as a means of achieving the roaded natural objectives.

Insect & Disease Control

Prevent or suppress insect and disease outbreaks which threaten the recreation objective.

MANAGEMENT PRESCRIPTION: 3B

EMPHASIS: Recreation/Wildlife

MANAGEMENT GOAL: Provide semi-primitive, motorized and non-motorized recreation in roaded or non-roaded areas while meeting objectives of wildlife management.

DESCRIPTION: Management emphasis is for semi-primitive, non-motorized recreation while allowing for some limited motorized use. Recreation opportunities such as hiking, horseback riding, hunting, cross-country skiing, etc., are available. Seasonal or permanent restrictions on human use may be applied to provide seclusion for wildlife.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	Visual quality objective is Partial Retention. Design and implement management activities to provide a visually appealing landscape.

Dispersed Recreation Emphasize Semi-primitive, Non-motorized recreation opportunities. Specific land areas or travel routes may be opened seasonally and with specific authorization to accomplish resource management objectives. Designated areas or travel routes can be open for motorized recreation activities when use is compatible with the overall recreation and wildlife management objectives.

Off-Road Vehicles Prohibit or restrict motorized vehicle use unless allowed by site-specific off-road vehicle direction.

WILDLIFE AND FISH

Habitat Improvement Maintain wildlife habitat effectiveness. Permanent openings may be employed. A full range of wildlife and fisheries habitat improvements may be implemented.

RANGE

Range Management Manage livestock distribution and stocking rates to be compatible with recreation and wildlife use. Locate structural improvements to meet visual quality objectives.

TIMBER

Timber Harvesting No scheduled timber harvest is permitted.

Silvicultural Treatments

Both even-age and uneven-age management systems will be used to support the recreation and wildlife goals.

Salvage may be accomplished to provide for user safety.

Firewood harvest is not permitted.

SOIL AND WATER

Soil & Water Protection When locating recreational, wildlife, or fisheries improvements, mitigate impacts to streams, lakes, aquatic ecosystems and associated riparian areas.

MINERALS

Minerals Management Exploration and development access requirements will be designed to meet, to the extent possible, the semi-primitive, non-motorized and wildlife objectives.

Operating plans will include reasonable measures to protect or enhance the effectiveness of the area to provide opportunities for dispersed, non-motorized recreation, and wildlife habitat.

Saleable mineral disposal is excluded from this management area.

Leases for oil, gas, or other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Special Uses Special use permits may be issued for compatible uses.

FACILITIES

Roads Road construction will be limited to those cases where primitive traffic Service Level D roads are necessary to meet recreation or wildlife objectives or to access mineral resources. After the road purpose has been served, these roads will be restored to a primitive condition and closed.

All existing roads will be closed except Forest Road 2054.

Trails Trails will be planned to provide a diversity of recreation experiences, including a variety of views, a feeling of solitude, and a variety of access challenges. Existing trails will be reconstructed or new trails will be provided for resource protection, public safety, and to maintain or enhance recreation and wildlife objectives.

Utility Corridors Avoid locating utility corridors in this management area.

Recreation Recreation facilities, except for those necessary to protect fragile resources, will be limited to trail shelters, sanitary and safety needs. All facilities will be of simple design in native rustic-like materials. Site modification for facilities should be very minimal to none. Site development level should be two or less.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires.

Prescribed Fire Planned and unplanned ignitions may be used as a means of achieving the recreation or wildlife objectives.

Insect & Disease Control

Prevent or suppress insect and disease outbreaks which threaten the recreation or wildlife objectives.

MANAGEMENT PRESCRIPTION: 3C

EMPHASIS: Downhill Skiing

MANAGEMENT GOAL: Provide for quality winter recreation opportunities including downhill skiing, nordic skiing and other compatible uses.

DESCRIPTION: Management integrates ski area development and use with other resource management to provide healthy tree stands, vegetative diversity, forage production for wildlife and opportunities for dispersed recreation including nordic skiing, hiking, mountain bikes and berry picking. Visual resources are managed so that the character is one of forested areas interspersed with openings of varying widths and shapes. Facilities may dominate, but should harmonize and blend with the natural setting.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Recreation	Design and locate improvements on winter sport sites to provide safety to users and to harmonize with the natural environment.

Provide opportunities for year-round recreation use of the permitted area and facilities.

Develop trails to provide dispersed recreation opportunities.

Wayside exhibits for interpretation may be developed.

Off-Road Vehicles Off-road vehicle use is appropriate on designated routes and in designated areas where minimum conflict between users can be assured.

Visuals A visual quality objective of Partial Retention is the goal for the developed portion of the area.

WILDLIFE AND FISH

Habitat Improvement Recreation use may be restricted in recognized key habitats of threatened and endangered species during periods critical to these species. Improvement projects must be coordinated with recreational objectives and be consistent with the visual quality objective for the area.

RANGE

Range Management The area will not be available for commercial livestock grazing unless vegetative control measures are needed.

TIMBER

Timber Harvesting No scheduled timber harvest is permitted in the area.

Silvicultural Treatments

Both even-age and uneven-age management systems will be used to support the visual and recreation goals.

Salvage will be accomplished to provide for user safety.

Firewood harvest is not permitted.

SOIL AND WATER

Soil & Water Protection When locating recreational improvements, mitigate impacts to streams, lakes, aquatic ecosystems and associated riparian areas.

MINERALS

Minerals Management Removal of saleable or common materials will not be appropriate. The site will be reviewed and evaluated for withdrawal need. If appropriate, the site will be recommended for withdrawal from mineral entry.

Decisions to lease oil and gas, or other leasable minerals will be made through NEPA analysis.

LANDS

Land Ownership Adjustment

Land acquisition and disposal may be appropriate.

Special Uses The developments under permit or master plan shall be inspected regularly to insure that the terms of the master plan and or special use permit are being met.

FACILITIES

Roads Access roads to the area should be managed to permit passenger car traffic.

Trails Trail construction and reconstruction is permitted.

Utility Corridors Avoid the location of utility corridors for powerlines.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires.

Prescribed Fire Planned and unplanned ignitions may be used as a means of achieving recreational and wildlife objectives if they achieve the visual quality objective.

Insect & Disease Control

Prevent or suppress insect and disease outbreaks which threaten the recreational visual objective.

MANAGEMENT PRESCRIPTION: 4

EMPHASIS: Research Natural Area

MANAGEMENT GOAL: Provide opportunities for research in ecosystems influenced only by natural processes.

DESCRIPTION: Research Natural Areas (RNAs) contain examples of typical natural ecosystems or unique kinds of vegetation, animals and land which are reserved for scientific and educational purposes. RNAs are dedicated to non-manipulative and non-destructive research. Specific resource values and management activities will be prescribed in individual establishment reports.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	Research facilities installed within RNA's will blend with the natural surroundings.
Developed Recreation	No new physical improvements for recreation purposes are permitted, unless needed to protect the values for which the RNA was established.
Off-Road Vehicles	Off-road vehicle use is prohibited.

WILDLIFE AND FISH

Habitat Improvement Habitat improvement is generally not appropriate. Protection and maintenance of unique values of the RNA is appropriate.

Use appropriate RNA guidelines when studying wildlife, fish and plants.

RANGE

Range Management Conditions of grazing will be followed as defined in the establishment report.

TIMBER

Timber Harvesting No scheduled timber harvest is permitted.

Salvage and/or firewood harvest is not appropriate.

MINERALS

Minerals Management Recommend withdrawal from mineral entry. If withdrawn, validity examinations may be conducted on existing mining claims.

Decisions to lease oil and gas, or other leasable minerals will be made through NEPA analysis.

Saleable mineral disposal and stockpile sites are not appropriate.

LANDS

Land Ownership Adjustment

Retain National Forest System lands; acquire private lands needed to support the RNA program.

Special Uses Rights-of-way grants are not appropriate.

Special use permits will not be issued.

FACILITIES

Roads Construction of new roads is not appropriate.

Trails Maintenance and reconstruction of existing trails is permitted. Construction of new trails not allowed.

Utility Corridors Avoid locating utility corridors in this management area.

PROTECTION

Wildfire Unless plans approved by the Station Director provide for letting natural fires burn, aggressive containment using low impact methods should be used. High impact methods will be used only to prevent a total loss of the Research Natural Area. Mop-up should be minimized with natural burnout being the preferred method.

Initial attack and suppression methods will be designed to maintain RNA characteristics**.**

Prescribed Fire Planned ignitions may be used as a means of achieving RNA objectives.

Insect & Disease Control

Insect and disease control is appropriate to protect the uniqueness of the Research Natural Area.

Plant Collection Plant collection will be prohibited in existing or proposed RNAs, unless expressly authorized in an approved research project.

MANAGEMENT PRESCRIPTION: 5

EMPHASIS: Scenic/Timber

MANAGEMENT GOAL: Provide a natural appearing foreground, middle, and background along major scenic travel routes while providing wood products.

DESCRIPTION: Foreground, middle, and background viewing zones along major travel routes will be managed to maintain a natural appearance. Development and management activities will remain visually subordinate to the characteristic landscape. Natural and/or artificial openings which offer enhancement opportunities or have negative elements mitigated may be present.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	Visual quality objective is Retention or Partial Retention.
	Cutting units must not dominate the natural patterns of form, line, color, and texture.
	Provide a diversity of vegetative species, age classes, and size classes.

Revegetate disturbed areas to an extent compatible with the surrounding area.

Rehabilitation measures are to be applied where needed to restore visual quality.

Developed Recreation Recreation facilities and uses shall be compatible with the Roaded, Natural or Semi-Primitive, Motorized ROS setting.

Developed sites may be allowed.

Off-Road Vehicles Off-road vehicle use permitted as designated in off road vehicle implementation schedule.

WILDLIFE AND FISH

Habitat Improvement Habitat improvement is permitted.

RANGE

Range Management Livestock grazing allotments and permits are appropriate.

Range management practices shall favor rapid re-establishment of timber on harvested areas.

Barriers necessary for livestock management will be repaired or replaced when breached by timber harvest or associated activities.

TIMBER

Timber Harvesting Scheduled timber harvest is permitted.

Salvage and firewood harvest is permitted.

Silvicultural Treatments

Uneven-age management will be emphasized in the seen area of foreground and middleground. Both even-age and uneven-age management will be practiced in unseen and background areas.

MINERALS

Minerals Management Exploration and development plans will include reasonable, operationally feasible requirements and rehabilitation measures designed to meet retention or partial retention objectives.

Saleable mineral disposal and stockpile sites will be located to meet visual quality objectives.

Leases for oil, gas, or other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Land Ownership Adjustment

Maintain a balance in offered and selected lands for similar resource capabilities over the planning period.

Special Uses Issue special use permits for compatible uses.

Terminate or modify existing noncompatible uses.

Grant rights-of-way requests when appropriate.

FACILITIES

Roads Road construction and reconstruction is permitted.

Local road access for timber management shall be adequate for logging, post sale activities, and resource protection.

Long-term, local roads for timber access shall be planned, constructed, maintained, and operated to be economically efficient. During commercial hauling activities, public access shall be discouraged or prohibited. High clearance vehicles shall be accepted during post sale activities, and all low clearance motorized traffic shall be discouraged or eliminated after post sale activities.

Utility Corridors Limit utility corridors and electronic relay installations to sites already developed for these purposes to the extent possible. New utility corridors are permitted after site-specific analysis and compliance with NEPA.

Proposed utility corridors will follow natural contours to the extent possible.

Visible power transmission towers will utilize colors to blend in with adjacent vegetative or rock land colors.

Trails Trail construction and reconstruction is permitted.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires.

Initial attack and suppression methods will be designed to maintain the scenic values.

Prescribed Fire Planned and unplanned ignitions may be used as a means of achieving visual objectives.

Insect & Disease Control

Prevent and suppress insect and disease outbreaks which threaten visual resources.

MANAGEMENT PRESCRIPTION: 6

EMPHASIS: Scenic/Winter Range

MANAGEMENT GOAL: Provide a natural appearing foreground, middle, and background along major scenic travel routes while providing for winter range management.

DESCRIPTION: Foreground, middle, and background viewing zones along major travel routes will be managed to maintain a natural appearance. Development and management activities will remain visually subordinate to the characteristic landscape. Natural and/or artificial openings which offer enhancement opportunities or have negative elements mitigated may be present.

Resource Element	Resource Activity Standards and Guidelines
RECREATION	
Visual Management	Visual quality objective is Retention or Partial Retention.
	Cutting units must not dominate natural patterns of form, line, color, and texture.
	Provide a diversity of vegetative species, age classes, and size classes.

Revegetate disturbed areas to an extent compatible with the surrounding area.

Rehabilitation measures are to be applied where needed to restore visual quality.

Developed Recreation Recreation facilities and uses shall be compatible with the Roaded, Natural or Semi-Primitive, Motorized ROS setting and with big game winter range use.

Developed sites may be allowed.

Off-Road Vehicles Seasonal closures may be implemented to provide more use of habitat by big game animals.

WILDLIFE AND FISH

Habitat Improvement Management will emphasize elk east of the Pend Oreille River. Deer will be emphasized west of that river. Mule deer will be given primary emphasis west of the Columbia River.

Manage for cover/forage ratios approaching 50:50, dispersed to provide for maximum utilization of forage. Cover includes winter thermal and snow intercept thermal cover types.

DEER COVER:

1. Evergreen trees, 40 feet or taller, crown cover 60 percent or greater.
2. Size of cover units three acres or greater, minimum width 300 feet.
3. Distribution not to exceed 600 feet between cover units.

ELK COVER:

1. Evergreen trees, 40 feet or taller, crown cover 70 percent or greater.
2. Size of cover units 30-60 acres or greater.
3. Distribution not to exceed 600 feet between cover units.

Of mule deer winter range, at least 30 percent west of the Kettle Crest and 20 percent east of the Kettle Crest will be maintained in "snow intercept thermal cover" with a distribution of at least 20 acres in every 100 acres in solid blocks, or units of not less than four acres, totaling 20 acres within a 50 acre block of land. Snow intercept

thermal cover consists of multi-storied stands of evergreen trees with crown closure exceeding 60 percent, including an overstory of trees of 12 inch DBH or greater with crown closure of at least 40 percent.

Stimulate production of browse and other forage.

RANGE

Range Management Develop livestock grazing systems compatible with the needs of big game on their winter ranges.

Sheep grazing on big game winter ranges will generally be avoided.

Emphasize wildlife needs in the design and location of range improvements. Modify, relocate, or eliminate existing improvements that are detrimental to wildlife.

TIMBER

Timber Harvesting Scheduled timber harvest is permitted.

The operating season for logging and post sale operations shall be restricted when necessary to protect deer and elk.

Salvage and firewood harvest is permitted.

Silvicultural Treatments

Uneven-age management will be emphasized on foreground and middleground seen areas. Even-age management, with emphasis on 10 to 20 acre regeneration units, will be the preferred management on background and unseen areas.

Forage on winter range will not be treated to release timber unless cover is limiting to big game production.

MINERALS

Minerals Management Exploration and development plans will include reasonable, operationally feasible requirements and rehabilitation measures designed to meet retention or partial retention objectives.

Locate saleable mineral disposal and stockpile sites to meet the visual quality objectives.

Leases for oil, gas, and other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Land Ownership Adjustment

Maintain a balance in offered and selected lands for similar resource capabilities over the planning period.

Special Uses Issue special use permits for compatible uses.

Terminate or modify existing noncompatible uses.

Grant rights-of-way requests when appropriate.

FACILITIES

Roads Road construction and reconstruction is permitted.

Roads open for public use will be minimized on big game ranges with the objective not to exceed 1.5 miles of open roads per square mile on deer winter range or 0.4 miles of open roads per square mile on elk winter range and mule deer winter range in Ferry County, averaged over a three square mile area during the season of use.

Utility Corridors Limit utility corridors and electronic relay installations to sites already developed for these purposes to the extent possible. New utility corridors are permitted after site-specific analysis and compliance with NEPA.

Proposed utility corridors will follow natural contours to the extent possible.

Visible power transmission towers will utilize colors to blend in with adjacent vegetative or rockland colors.

Trails Trail construction and reconstruction is permitted.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires.

Initial attack and suppression methods will be designed to maintain the scenic values.

Prescribed Fire Planned and unplanned ignitions may be used as a means of achieving visual and winter range objectives.

Insect & Disease Control

Prevent and suppress insect and disease outbreaks which threaten visual resources.

MANAGEMENT PRESCRIPTION: 7

EMPHASIS: Wood/Forage

MANAGEMENT GOAL: Manage to achieve optimum production of timber products while protecting basic resources.

DESCRIPTION: Timber production will be emphasized on lands suitable and available for timber management. Stands will receive varying amounts of cultural treatments during the rotation period. Timber management practices, including harvests, will be accomplished by the most economical methods compatible with silvicultural and resource constraints. Other resource outputs and activities will also occur.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	Visual quality objective is Modification and Maximum Modification.

Immediate foreground zone around significant dispersed recreation sites will be managed to meet the retention visual quality objective.

Recreation Recreation uses shall be compatible with the Roaded Modified ROS setting. Recreation facilities shall not exceed a Level 2 development level.

Roaded and non-roaded dispersed recreation uses are permitted.

Off-Road Vehicles Off-road vehicle use is appropriate as designated in off road vehicle implementation schedules.

WILDLIFE AND FISH

Habitat Improvement Habitat improvements are permitted.

RANGE

Range Management Livestock grazing allotments and permits are appropriate.

Range management practices shall favor rapid re-establishment of timber on harvested areas.

Barriers necessary for livestock management will be repaired or replaced when breached by timber harvest or associated activities.

TIMBER

Timber Harvesting Scheduled timber harvest is permitted.

Salvage and firewood harvest is permitted.

Silvicultural Treatments The full range of silvicultural prescriptions may be utilized.

Even-age management will be emphasized. Clearcutting will be used only when it is determined to be the optimum method.

MINERALS

Minerals Management Exploration and development access requirements will be coordinated with timber harvest access to the extent reasonable.

Leases for oil, gas, and other leasable minerals will be granted following approval of the appropriate NEPA documents.

LANDS

Land Ownership Adjustment

Make needed land adjustments. Land adjustments may be either acquisition or disposal. Generally, land adjustments will not result in a reduction of allowable harvest. However, land adjustments may also be made to satisfy the needs of other resources such as wildlife and recreation. Make needed land adjustments to consolidate land ownership with basic objective to reduce management costs for all landowners.

Special Uses Issue special use permits for compatible uses.

Grant rights-of-way requests when appropriate.

FACILITIES

Roads Local road access for timber management shall be adequate for logging, post sale activities, and resource protection.

Long-term, local roads for timber access shall be planned, constructed, maintained, and operated to be economically efficient. During commercial hauling activities, public access shall be discouraged or prohibited. High clearance vehicles shall be accepted during post sale activities, and all low clearance motorized traffic shall be discouraged or eliminated after post sale activities.

Trails Existing trails will be retained and/or restored after the management activity has been completed.

New trail location may be permitted provided that it does not conflict with the long-term timber objectives.

Utility Corridors Utility corridors are permitted after site-specific analysis and compliance with NEPA.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires.

Initial attack and suppression methods will be designed to meet timber production objectives.

Prescribed Fire Planned and unplanned ignitions may be used as a means of achieving resource management objectives.

Insect & Disease Control

Prevent or suppress insect and disease outbreaks which threaten the timber values.

Insect and disease reduction will be considered when making silvicultural prescriptions.

MANAGEMENT PRESCRIPTION: 8

EMPHASIS: Winter Range

MANAGEMENT GOAL: Meet the habitat needs of deer and elk to sustain carrying capacity at 120 percent of the 1980 level, while managing timber and other resources consistent with fish and wildlife management objectives.

DESCRIPTION: Primary big game species are mule deer, white-tailed deer, and elk. Populations are generally limited by the amount and condition of available winter range.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	The visual quality objective is Modification or Maximum Modification.
Recreation	Recreation uses shall be compatible with the Roaded Modified ROS setting. Recreation facilities shall not exceed a Level 2 development level.

Roaded and non-roaded dispersed recreation uses are permitted. Roads and/or areas may be closed to motorized use seasonally.

Off-Road Vehicles Off-road vehicle use is allowed.

Seasonal closures may be implemented. Closures will be identified in the Forest Travel Management Implementation Schedule.

WILDLIFE AND FISH

Habitat Improvement Management will emphasize elk east of the Pend Oreille River. Deer will be emphasized west of that river. Mule deer will be given primary emphasis west of the Columbia River.

Manage for cover/forage ratios approaching 50:50, dispersed to provide for maximum utilization of forage. Cover includes winter thermal and snow intercept thermal cover types.

DEER COVER:

1. Evergreen trees, 40 feet or taller, crown cover 60 percent or greater.
2. Size of cover units three acres or greater, minimum width 300 feet.
3. Distribution not to exceed 600 feet between cover units.

ELK COVER:

1. Evergreen trees, 40 feet or taller, crown cover 70 percent or greater.
2. Size of cover units 30-60 acres or greater.
3. Distribution not to exceed 600 feet between cover units.

Stimulate production of browse and other forage.

Mule deer winter range will be managed with at least 30 percent west of the Kettle Crest and 20 percent east of the Kettle Crest maintained in "snow intercept thermal cover". Snow intercept thermal cover distribution will be at least 20 acres in every 100 acres in solid blocks, or units of not less than four acres, totaling 20 acres within a 50 acre block of land. Snow intercept thermal cover consists of multi-storied stands of evergreen trees with crown closure exceeding 60 percent, including an overstory of trees of 12 inch DBH or greater with crown closure of at least 40 percent.

RANGE

Range Management Develop livestock grazing systems compatible with the needs of big game on their winter ranges. Conflicts will be resolved to the benefit of wildlife.

Sheep grazing on big game winter ranges will generally be avoided. No domestic sheep will be grazed on range used by bighorn sheep.

Emphasize wildlife needs in the design and location of range improvements. Modify, relocate, or eliminate existing improvements that are detrimental to wildlife.

TIMBER

Timber Harvesting Scheduled timber harvest is permitted.

The operating season for logging, road building, and post sale operations shall be restricted when necessary to protect deer and elk.

Schedule timber harvests to implement habitat management. Winter logging will not normally be scheduled on elk winter range. Winter logging may be scheduled on deer winter range if not detrimental to the deer.

Salvage and firewood harvest is permissible if wildlife habitat needs are maintained.

Silvicultural Treatments Even-age management will be preferred, with emphasis on regeneration units of 10 to 20 acres.

Forage on winter range will not be treated to release timber unless cover is limiting to big game production.

MINERALS

Minerals Management Operating plans will include reasonable measures to protect or enhance the effectiveness of winter range.

Leases for oil, gas, or other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Land Ownership Adjustment National Forest ownership is desirable to protect big game habitat. Land adjustments may involve acquisition and disposal. Maintain a balance in offered and selected lands for similar resource capabilities over the planning period.

Special Uses Issue permits for compatible uses.

Grant road access to property owners.

FACILITIES

Roads Road construction and reconstruction is appropriate.

Roads open for public use will be minimized on big game ranges with the following objective: 1) not to exceed 1.5 miles of open roads per square mile on deer winter range; and 2) not to exceed 0.4 miles of open roads per square mile on elk winter range and mule deer winter range in Ferry county. The above objectives will be measured by averaging open roads over a three square mile area during the season of use.

Trails Construction and reconstruction of trails is appropriate.

Utility Corridors Utility corridors are permitted after site-specific analysis and compliance with NEPA.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires.

Prescribed Fire Planned and unplanned ignitions may be used to improve winter range.

Insect & Disease Control

Prevent or suppress insect and disease outbreaks which threaten the winter range objective.

MANAGEMENT PRESCRIPTION: 9

EMPHASIS: Wilderness Management

MANAGEMENT GOAL: The goal of wilderness management is to feature naturalness, opportunities for solitude, challenge, and inspiration, and within these constraints to provide for recreational, scenic, scientific, education, and historical uses. In carrying out this goal, a non-degradation policy of management shall be followed. The non-degradation principle directs that each wilderness must essentially be as wild as it was at the time of classification, or if conditions are not known and cannot be reconstructed for the time of classification, the first Wilderness condition inventory should be used as the benchmark for maintaining wilderness conditions. Additionally, regulations direct that conditions shall be improved in situations where natural processes are not operating freely, and where the values for which a wilderness was created are impaired.

DESCRIPTION: The Salmo-Priest Wilderness, designated in the Washington State Wilderness Act of 1984, is located in the northeast corner of the Colville National Forest. The Colville National Forest administers 30,616 acres and the Idaho Panhandle National Forests administer 9,360 acres. Topography is quite steep with the highest mountain at an elevation of 7,309 feet. The primary drainage is the South Fork of the Salmo River which flows northwest into Canada. Perhaps the most distinctive landscape feature is the stands of large, old growth cedar and western hemlock, some over 700 years old with diameters of up to four feet. Of special interest and concern is the presence of woodland caribou and grizzly bear, endangered and threatened species, respectively.

This Plan recognizes that different areas within wilderness can and should provide different opportunities and experiences. Therefore, the Salmo Priest Wilderness has been divided into zones called Wilderness Recreation Opportunity Spectrum (WROS) zones. Each zone has its own definition and set of management objectives that will make it distinct from other zones. Additional social, physical and managerial standards can be found in R6 FSM Supplement 2320 #81. The three zones in the Salmo Priest are:

Semi-primitive Zone - This zone is characterized by predominantly unmodified natural environment. Concentrations of users are low, but there is often evidence of other area users. The zone is managed in such a way that minimum on-site controls and restrictions may be present but are subtle. Spacing of groups may be formalized to disperse use and provide low to moderate contacts with other groups or individuals. Opportunities for isolation and solitude are moderate while opportunities for challenge and risk are moderate to high.

Primitive Zone - This zone is characterized by an essentially unmodified natural environment. Concentrations of users are very low and evidence of other area users is minimal. The zone is managed to be essentially free from evidence of restrictions and controls. Spacing of groups is informal and dispersed to minimize contacts with other groups and individuals. Opportunities for isolation and solitude are exceptionally high while opportunities for challenge and risk are also high.

Resource Element	**Resource/Activity Standards and Guidelines**

RECREATION

Social Setting Objectives

Each WROS zone is to be managed for different social objectives. Encounters with other people should be limited to 12 people per day in the Semi-primitive Zone and six people per day in the Primitive Zone.

Group Size should be limited to 12 people and stock combined in the Semi-primitive and Primitive Zones. Larger groups of up to 20 people and stock combined are allowed by permit only.

Motorized and Mechanized Equipment

Use of motors or mechanized equipment is prohibited.

The Forest Supervisor may approve exceptions for emergencies involving threats to life, health, or property. The Regional Forester may approve use of mechanized equipment for other situations.

Visual Management Visual quality objective is Preservation.

Dispersed Recreation Over the long term, manage to provide a primitive recreation experience.

Provide signs only where necessary to protect the wilderness resource and to provide for user safety and orientation.

Visitor use and distribution will be determined and managed to a level compatible with the wilderness resource.

Off-Road Vehicles Off-road vehicles use is prohibited.

WILDLIFE AND FISH

Habitat Improvement Maintain native animal species, with special emphasis on the preservation of threatened and endangered species and their habitats.

Fish stocking will continue where it was an established practice prior to wilderness designation. Favor native fish species.

RANGE

Range Management There are no commercial livestock allotments permitted. Recreation stock allotments will be considered if needed.

VEGETATION Wilderness will not be managed for commercial timber production.

Live trees may be utilized for the administrative purposes such as trail bridges. Location of cut trees will be out of sight from common travelways or camping areas.

Revegetation of impacted areas will be as follows:
--Only native species will be used for site revegetation.
--Areas to be revegetated may be closed until they are considered reestablished.

MINERALS

Minerals Management All Notices of Intent or Plans of Operation submitted by existing claim holders which propose significant surface disturbing activities will require an appropriate examination of validity prior to approval.

Proposed activities which are necessary to fulfill assessment requirements and will not cause significant disturbance to wilderness values may be approved without a validity examination.

LANDS

Land Ownership Adjustment Retain all National Forest System lands.

Permits Permit commerical outfitting and guide permits where there is a demonstrated management and public need and it is compatible with general public use and remains within the WROS and wildlife objectives.

FACILITIES

Trails Design, construct, relocate, reconstruct and maintain trails to meet wilderness management objectives.

Construct and maintain trailhead facilities that are required to protect the area and meet use objectives.

Roads Roads are not permitted.

Helispots Permanent helispots may be permitted when approved by the Forest Supervisor.

Utility Corridors Roads, powerlines, telephone lines, water flow maintenance structures, reservoirs or other structures are excluded.

Cultural Resources Prepare a cultural resource inventory, including known structures and facilities. Evaluate all sites for their inclusion in the National Register of Historic Places. Prepare a plan for managing or otherwise dealing with all sites recorded in the wilderness.

After evaluation, decision to maintain, abandon, or remove structures will be preceded by the Section 106 compliance process of the National Historic Preservation Act. Those structures declared abandoned will be removed; those structures to be retained will be maintained to a standard compatible with the objectives of the wilderness designation.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires. The wildfire suppression objective for early and late winter caribou habitat, within the wilderness, will be protection of those values.

Conduct all fire management activities in a manner compatible with wilderness management objectives.

Prescribed Fire Planned ignitions will not be permitted at this time. This standard will be re-evaluated in the next generation of forest planning to determine if fire is needed to maintain or achieve wilderness objectives.

Rehabilitate disturbed areas within the wilderness to as natural a condition as possible.

Insect & Disease Control

Insect and disease characteristics will be monitored and evaluated. If conditions pose a significant threat to lands outside the wilderness or caribou habitat inside, control measures may be taken with biological controls to be given preference.

MANAGEMENT PRESCRIPTION: 10

EMPHASIS: Semi-Primitive, Motorized Recreation

MANAGEMENT GOAL: Provide opportunities for dispersed, motorized recreation.

DESCRIPTION: These lands are accessed by primitive travelways suitable only for high clearance, four wheel drive vehicles, motorcycles, all terrain vehicles and snowmobiles. All forms of dispersed recreation associated with these kinds of vehicles occurs. These lands generally have been minimally impacted by human activities and provide natural appearing landscapes. Opportunities to get away from other recreationists and to experience solitude are good during most seasons of the year.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	The visual quality objective is Retention.
Recreation	Manage according to the Semi-primitive Motorized ROS class guidelines.

Limit facilities to tables, fire rings, sanitary and safety needs, and build to Level 2 scale of development.

Dispersed camping areas are typically informal user built and are located to take advantage of topographic and vegetative screening from roads and use areas.

Off-Road Vehicles Off-road vehicles are limited to existing travelways except for snowmobiles.

WILDLIFE AND FISH

Habitat Improvement Habitat improvements are permitted.

Seasonal closures are provided to protect wildlife.

RANGE

Range Management Livestock grazing allotments and permits are appropriate.

Mitigate heavy impact areas such as watering, salting, and gathering places by rehabilitation or moving the activity away from dispersed recreation sites.

TIMBER

Timber Harvesting No scheduled timber harvest is permitted.

Salvage of blowdown, and fire, insect, or disease killed timber would not be allowed unless catastrophic losses outside the area are anticipated.

Firewood cutting is not permitted.

Silvicultural Treatments

Timber may be harvested to enhance recreation values when justified through site-specific analysis including public involvement.

MINERALS

Minerals Management Mineral exploration and development operating plans will include reasonable requirements to mitigate impacts to the management area.

Locate saleable mineral disposal and stockpile sites outside the area unless there is no reasonable alternative.

Leases for oil, gas, or other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Land Ownership Adjustment

Maintain a balance in offered and selected lands for similar resource capabilities.

Special Uses Special use permits may be issued for compatible uses.

FACILITIES

Roads Temporary roads may be constructed as justified in site specific analysis for salvage of timber, access to mineral resources, or for permittee use. After they have served their purpose, these roads will be restored to a primitive condition and closed.

Trails Trails will be planned to provide a diversity of recreation experiences including a variety of views, a feeling of solitude, and a variety of access challenges.

Existing trails shall be reconstructed for resource protection, public safety, and to maintain or enhance recreation opportunities. No additional trails will likely be constructed during the life of this Plan.

Utility Corridors Avoid locating utility corridors in this management area.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires.

Initial attack and suppression methods will be designed to maintain the semi-primitive character.

Prescribed Fire Planned and unplanned ignitions may be used as a means of achieving semi-primitive objectives.

Insect and Disease Control

Prevent or suppress insect and disease outbreaks which threaten the semi-primitive objective.

MANAGEMENT PRESCRIPTION: 11

EMPHASIS: Semi-Primitive, Non-Motorized Recreation

MANAGEMENT GOAL: Manage these areas to protect the existing unroaded character and to provide opportunities for dispersed, non-motorized recreation.

DESCRIPTION: These lands are generally remote, high elevation ridges and mountain tops that have not been accessed by roads. Trails provide access for recreation users and Forest Service permittees. Landscape alterations have been minimal. The areas provide an opportunity to experience a reasonable degree of isolation from the sights and sounds of motorized activity in a natural appearing setting.

Resource Element	Resource/Activity Standards and Guidelines
RECREATION	
Visual Management	The visual quality objective is Retention.
Recreation	Manage according to Semi-Primitive, Non-Motorized ROS class guidelines.

Limited facilities are allowed to achieve signing, sanitary, safety needs and resource protection.

Group size restriction may be employed where needed for resource protection or to maintain ROS standards.

Off-Road Vehicles Motorized equipment can be used for construction and maintenance of trails. Motorized vehicles such as all-terrain vehicles, snowmobiles and motorcycles are not allowed for recreation.

WILDLIFE AND FISH

Habitat Improvement Habitat improvement is permitted, including unroaded vegetative management, to benefit grizzly bear, caribou, big horn sheep, and mountain goats.

RANGE

Range Improvement Livestock grazing allotments and permits are appropriate.

Mitigate heavy impact areas such as watering, salting and gathering areas.

TIMBER

Timber Harvesting No scheduled timber harvest is permitted.

Silvicultural Treatments

Salvage of blowdown, and fire, insect, or disease killed timber would not be allowed unless catastrophic losses outside the area are anticipated.

MINERALS

Minerals Management Exploration and development access requirements will be designed to meet the Semi-Primitive,Non-Motorized objective to the extent possible.

Operating plans will include reasonable measures to protect or enhance the effectiveness of the area to provide opportunities for dispersed, non-motorized recreation.

Saleable mineral disposal is excluded from this management area.

Leases for oil, gas, or other leasable minerals will be granted following approval of the appropriate NEPA document.

LANDS

Land Ownership Adjustment

Retain National Forest land and acquire private lands as opportunities occur.

Special Uses Special use permits may be issued for compatible uses.

FACILITIES

Roads Road construction will be limited to those cases where primitive traffic Service Level D roads are necessary to salvage timber or to access mineral resources. After the road purpose has been served, the roads will be restored to a primitive condition and closed.

Trails Trails will be planned to provide a diversity of recreation experiences including a variety of views, a feeling of solitude, and a variety of access challenges.

Existing trails shall be reconstructed for resource protection, public safety, and to maintain or enhance recreation opportunities.

Recreation Recreation facilities, except for those necessary to protect fragile resources, will be limited to trail shelters, sanitary, and safety needs. All will be of simple design in native, rustic-like materials. Site modification for facilities should be very minimal to none. Site development level should be Level 2 or less.

Utility Corridors Avoid locating utility corridors in this management area.

PROTECTION

Wildfire Take appropriate suppression action on all wildfires. Control fires that threaten identified caribou habitat.

Initial attack and suppression methods will be designed to maintain the unroaded character and to meet caribou habitat management objectives within identified caribou habitat.

Prescribed Fire Planned and unplanned ignitions may be used as a means of achieving Semi-Primitive, Non-Motorized objectives and to meet grizzly bear, caribou, bighorn sheep, and mountain goat objectives.

Insect & Disease Control

Prevent or suppress insect and disease outbreaks which threaten the Semi-Primitive, Non-Motorized objective or that are an imminent threat to caribou habitat.

CHAPTER 5

IMPLEMENTATION OF THE FOREST PLAN

INTRODUCTION

Implementation of the Colville National Forest Plan requires moving from an existing management program, with a budget and "targets" for accomplishment, to a new management program with a budget, goals, and objectives that provide a different way of addressing the issues and concerns people have voiced about management of the Colville National Forest. This Forest Plan establishes the direction for the Colville National Forest for the next ten to fifteen years, when used in conjunction with Forest Service Manuals and Handbooks and the Pacific Northwest Regional Guide.

This chapter explains how management of the Colville National Forest moves from the current direction and existing situation to the "Proposed Action", all described in the Final Environmental Impact Statement. The following sections describe aspects of implementation that are influenced by previous management activities and objectives; the relationship between project planning and this Forest Plan; the goals of and requirements for monitoring and evaluation; and the circumstances which could require the Forest Plan to be amended or revised.

IMPLEMENTATION DIRECTION

Implementation of the Forest Plan occurs through identification, selection, scheduling, and execution of management practices to meet management direction provided in the Plan. Implementation also involves responding to proposals by others for use and/or occupancy of National Forest System lands.

PROJECT SCHEDULING

The schedule of proposed projects is contained in the appendices of this document. The Plan appendices contain activity schedules. These activity schedules represent a pool of possible projects from which implementation schedules (specific, funded projects) are developed in conjunction with funding approvals. Listings of possible projects to meet the ten-year management activities schedules are maintained by the unit managers. Those listings will routinely change as projects are implemented or are removed from the listings for other reasons, and as new projects take their place. Projects are scheduled in response to the planned outputs of goods and services in this Plan and the annual budgeting process.

CONSISTENCY WITH OTHER INSTRUMENTS

Subject to existing rights, all other contracts, cooperative agreements, or instruments for the occupancy and use of lands will be brought into compliance with the Forest Plan. Unless

otherwise specified, this compliance will occur as soon as practicable, or as otherwise specified in Forestwide Standards and Guidelines and Management Prescriptions, after approval of the Plan. This will generally be within three years. Table 5.1 lists existing plans that the Forest Plan supersedes or that must come into compliance with the Forest Plan.

Table Chapter 2 .1:Revised or Superceded Planning Documents

TABLE 5.1
REVISED OR SUPERCEDED PLANNING DOCUMENTS

PLAN TITLE	SUPERSEDED	TO BE UPDATE
1965 Timber Management Plan	X	
1978 Kettle Range Land Management Plan	X	
1972 Snyder Hill Land Management Plan	X	
1977 East Deer Creek Land Management Plan	X	
1974 Canadian Face Land Management Plan	X	
1979 Tonasket Land Management Plan	X	
1978 Kettle Range Fire Management Plan	X	
1984 Salmo-Priest Interim Wilderness Management Plan	X	
Forest and District Multiple Use Plans	X	
Kaniksu N.F. Multiple Use Plan and 1973 Timber Management Plan	X	
Interim Road Management Plan	X	
Existing Special Use Permits (case-by-case basis)	X	X
Range Allotment Plans		X
1984 Off Road Vehicle Use Management Plan		X
Tree Improvement Plan		X
Research Natural Area Establishment Reports		X
Land Adjustment Plan		X
Statewide Comprehensive Wildlife Plan		X
Area Transportation and Harvest Plans		X

1/ These existing plans will be examined and updated or revised as necessary to be brought in conformance with the Forest Plan, simply incorporated into the Forest Plan if no change is needed.

Recreation

Issuance of new recreation special use permits or reissuance of existing annual recreation special use permits will be consistent with Forest Plan direction on the first issuance or reissuance date following Forest Plan implementation.

Reissuance of existing term recreation special use permits will be consistent with Forest Plan direction on the first reissuance date or the first proposed permit transfer date following Forest Plan implementation.

The Memorandum of Understanding between the Colville National Forest, the Spokane County Park and Recreation Department, and Stevens County Department of Public Works relating to the snowmobile grooming program will be consistent with Forest Plan direction prior to the first snowmobile grooming season following Forest Plan implementation.

All other existing recreation special uses will be consistent with Forest Plan direction on the first reissuance date following Forest Plan implementation.

Wildlife and Fish

Within the first year of implementation: (1) habitat survey schedules will be prepared including identified needs to be inventoried within ten years; (2) the Statewide Comprehensive Fish and Wildlife Management Plan will be updated in cooperation with the Washington State Department of Wildlife; (3) a habitat improvement implementation schedule will be prepared for a five-year period (schedule will be updated annually); and (4) the Fish, Wildlife, and Sensitive Plant Monitoring Implementation Schedule will be developed, including monitoring methods and scheduling.

Range

Existing Allotment Management Plans and range permits will be in compliance with Forest Plan direction on the first reissuance date following Forest Plan implementation. New allotment plans or range permits will be consistent with Forest Plan direction on first issuance following Forest Plan implementation.

In implementing the Forest Plan, any necessary adjustments between existing permitted livestock numbers and plan direction will be made about by evaluating management direction, by allotment, to determine if a change in management intensity for the allotment is necessary. Factors to be considered in this adjustment include: (1) permit status, (2) viability of current operator, (3) conditions of improvements, (4) funds available (private and public), (5) needs on other allotments, and (6) ability to continue to meet standards and guidelines in this chapter.

Timber

The schedule of timber sale offerings contained in Appendix D of the Plan will be updated at least annually. All timber sales offered after issuance of the Forest Plan will be in compliance with directions contained in the plan. Timber sales now under contract will be administered under provisions of the existing contracts. Changes to existing timber sale contracts may be proposed on a case-by-case basis where overriding resource considerations are present.

All reforestation, timber stand improvement, and related silvicultural activities proposed following issuance of the Forest Plan will be in compliance with direction contained in the Plan. Existing contracts for silvicultural projects issued prior to Forest Plan approval will continue to be administered under provisions of the existing contracts. Changes to existing contracts may be made on a case-by-case basis where overriding resource considerations exist. Silvicultural work being accomplished by Forest Service personnel will immediately comply with direction upon approval of the Forest Plan.

Timber implementation plans such as the Forest Tree Improvement Plan, Seed Orchard Management Plan, and Tree Seed Inventory Plan will be brought into compliance with the direction contained in the Forest Plan within two years of Plan approval. Updates to activity schedules (old functional plans) will be in compliance with provisions of the Forest Plan.

Lands

All facilities (roads, buildings, bridges, etc.) and plans for management of these facilities will be consistent with Forest Plan direction as soon as practicable, subject to valid existing rights of outstanding permits, contracts, cooperative agreements.

The special use permit between the Air Force and the Colville National Forest relating to the survival school will be consistent with Forest Plan direction at the first reissuance following Forest Plan implementation. In the interim, the annual operating plan between the Air Force and the Forest will be consistent with Forest Plan direction to the extent practicable. Changes to the existing special use permit may be proposed on a case-by-case basis where over riding resource protection considerations are present.

Minerals

New mineral leases, permits, contracts, and operating plans will be evaluated for consistency with the Forest Plan as they are received or proposed. Existing permits and operating plans will be reviewed for consistency with Forest Plan standards and guidelines. Modifications of these permits and plans will be required only when authorized by law or regulation.

Mineral material sales under contract at the time of Forest Plan implementation will be administered under provisions of the existing contracts. Changes to these may be proposed on a case-by-case basis where over riding resource protection considerations exist.

The Forest Service has no authority to modify stipulations attached to existing mineral leases, so modifications will not take place.

BUDGET PROPOSALS

The scheduled projects in the Forest Plan are translated into multi-year program budget proposals that identify needed expenditures. The schedule is used for requesting and allocating the funds needed to carry out the planned management direction. Upon approval of a final budget for the Forest, the annual program of work is finalized and implemented. Accomplishment of the annual program is the incremental implementation of the management direction of the Forest Plan. Outputs and activities for individual years may be significantly different from those shown in Chapter 4, depending on final budgets.

ENVIRONMENTAL ANALYSIS

Projects and activities resulting from this Forest Plan are subject to environmental analysis under the National Environmental Policy Act (NEPA) process as they are planned for implementation. An analysis file and/or a project file will be available for public review. The analysis will be documented in the form of a categorical exclusion, environmental assessment, or environmental impact statement.

The Monitoring Plan, Table 5.2, identifies the key activities and outputs to be tracked during implementation of this plan to ensure that activities reasonably conform to the management area direction, and that outputs satisfy the objectives of the plan.

At intervals established in this Forest Plan, implementation will be evaluated to determine how well objectives have been met, how accurate effects and cost projections are, and how closely management standards and guidelines have been applied. Based upon an evaluation of the monitoring results, the Interdisciplinary Team shall recommend to the Forest Supervisor such changes in management direction, revisions, or amendments to the Forest Plan as deemed necessary. The action prescribed by the Forest Supervisor will depend upon the significance of the monitoring results. The magnitude of the change from predicted conditions is an important factor, as is the risk associated with the change. Procedures prescribed by the National Environmental Policy Act will be followed by the Forest Supervisor in determining the appropriate action.

Action directed by the Forest Supervisor could include one or several of the following:

1. A determination that no action is needed, that monitoring indicates goals, objectives, and standards are being achieved.

2. District Ranger(s) may be directed to improve application of management area direction as projects are implemented. Normally, this would involve a change in proposed project design, or a site-specific interpretation of management area direction. In some instances, additional information or study may be required due to an inconclusive evaluation.

3. Management area direction may be modified as a Plan amendment. This would normally involve a question of the applicability of the direction to a specific geographic area, rather than forestwide for a particular management area.

4. The allocation of a management prescription may be modified as a Plan amendment.

5. The projected schedule of outputs may be amended.

6. The needed action may singly or cumulatively result in a significant change to the Plan or initiate revision of the Plan.

Monitoring and evaluation each have a distinctly different purpose and scope. In general, monitoring is designed to gather the data necessary for evaluation. During evaluation, data provided through monitoring are analyzed and interpreted. This process will provide periodic summary data necessary to determine if implementation is within the bounds of the Forest Plan.

Figure 5.1, Monitoring Implementation Sequence, is included to assist the reader in understanding how the monitoring process will be carried out.

Figure Chapter 2 -1:Monitoring Implementation Sequence **Figure 5.1 THIS FIGURE WAS DONE ON THE PC**

Monitoring and evaluation will provide information to help determine whether or not:

-- Management prescriptions are producing predicted environmental effects.

-- Management prescriptions are being followed as directed.

-- Implementation is responsive to the issues and concerns.

-- Costs of implementing the Forest Plan are as projected.

-- Management practices on adjacent or intermingled non-National Forest System lands are affecting the realization of Forest Plan Goals and Objectives.

-- Implementation of the Forest Plan is precluding other land management agencies from realizing their stated objectives.

The monitoring plan contains the following elements:

-- Monitoring item: Monitoring item.

-- Actions or effects to be monitored: Actions/effects to be monitored.

-- Units: Units to be measured or produced.

-- Variability Threshold: This information will be used on the Monitoring Implementation Sequence to determine appropriate action if monitoring indicates objectives are not being met.

-- Suggested Method: How monitoring will be accomplished.

-- Who Will Monitor: For accomplishment, who will be responsible for seeing monitoring is accomplished.

-- Frequency of Report: Summarizing results for the items being monitored stated in years or parts of years.

-- Location of Data: Indicates where the collected monitoring data, analysis and evaluation reports for the item monitored are stored.

-- Estimated Annual Cost: This cost includes existing and planned monitoring items.

THE FOLLOWING TABLE MUST BE MOVED INTO ANOTHER DOCUMENT IN ORDER TO PRINT. THE TOP AND BOTTOM MARGIN ARE DIFFERENT THAN THE REST OF THE TEXT AND IT WOULD THROW EVERYTHING OFF IF LEFT IN. LEAVE 6 BLANK PAGES IN ITS PLACE.

Table Chapter 2 .2 : Monitoring Actions

TABLE 5.2

MONITORING ACTIONS

MONITORING ITEM	ACTIONS/EFFECT	UNITS	VARIABILITY THRESHOLD	SUGGESTED METHODS	WHO WILL MONITOR	FREQUENCY	LO DA
GENERAL							
Project compliance with National Environmental Policy Act, including cumulative effects analysis.	All project level decisions	Management activities	Meet NEPA Regulations and FSM direction on environmental documentation; meet standards and guidelines	EA review by office and field staff	District Ranger and PP&B Staff	Each project	195
GENERAL							
Standards and guidelines	Adherence to standards and guidelines not covered by separate monitoring item; goals and objectives met by standards and guidelines.	All standards and guidelines	Deviation from stated goals and objectives	Review of selected activities	District Ranger and S.O. Staff	Ongoing	File
RECREATION							
User experience and physical setting in dispersed and developed use sites and areas.	Site conditions and user satisfaction assure that a broad spectrum of ROS settings and recreational opportunities are provided.	Developed and dispersed sites and areas	When desired physical, social, and managerial setting for each ROS Class would not be achieved.	Condition surveys, user surveys	District Ranger	Visitor Use Counts - Annual; Condition Survey - 3 Year Cycle; User Satisfaction Survey - 5 years	R.I File
RECREATION							
Trails	Comparisons of actual use with ROS Class objectives	Recreation visitor days and encounters per visitor day	When capacity equals 90% of the physical, social, setting criteria for each ROS Class.	Visitor contacts, trail registration, observations of resource conditions on heavy use trails.	District Ranger	Annual	RIM File
	$5,000						

RECREATION							
Semi-primitive (undeveloped) setting	Comparisons of actual use with social and managerial setting criteria for ROS Class.	Recreation visitor days and encounters per visitor day					
	When desired physical, social and managerial setting for each Recreation Opportunity Spectrum Class would not be achieved. $5,000	Visitor contacts, trail registration, observations of resource conditions at heavy use area.	District Ranger	Annual	RIM data		
RECREATION							
Effects of ORV use	Determine when ORV use is causing unacceptable effects on resources, public safety or forest users. $1,000	ORV use	ORV use shows unacceptable effects.	Photo transects of heavy use ORV areas. Field observations. Photopoints.	Recreation Staff	Annual	File
VISUAL QUALITY							
Visual Quality objectives of all management areas	Projects affecting visual resources						
	Percent of area meeting VQO's	Use conflicts with the management goals for the Management Area.	Conduct summary viewshed analysis as outlined in R-6 supplement 65.	District and Recreation Staff	25% of the activities in Manageme nt Areas 3, 5, & 6 annually	District Ranger and S.O.	$5,
WILDERNESS							
Physical, social and management settings for wilderness opportunities (R.O.S.)	Changes in Limits of Acceptable Change for attributes of each WROS Class.	WROS (Wilderness Recreation Opportunity Spectrum)	When minimum limits of acceptable change for each WROS Class are not being met or a downward trend is indicated.	Sample field observations of heavy use areas and travel corridors.	District Ranger	Annual	Dis File

TABLE 5.2 (Continued)

MONITORING ITEM	ACTIONS/EFFECT	UNITS	VARIABILITY THRESHOLD	SUGGESTED METHODS	WHO WILL MONITOR	FREQUENCY
POTENTIAL WILD AND SCENIC RIVER						
	Determine the effects of activities on attributes for potential classification of river segments for Wild and Scenic River designation.	Lands adjacent to the Kettle River	When resource condition or level of activities would lower the potential for Wild and Scenic River designation.	Review Project Activity with potential adjacent lands involved	District Ranger and Fire Recreatio n Staff	Once every 5 years
WILDLIFE						
Deer and elk habitat and population trends.	Determine if habitat is managed to meet big game management objectives.	Habitat capability based on cover/forage relationships, browse production, utilization, condition and trend of vegetation, open road densities, population, age and sex ratios. Competition between big game and livestock.	Habitat condition and trend not to deteriorate for more than 3 years or more than 5% in any resource shed. Population characteristics (age and sex ratios, or population) not to deteriorate for more than 3 years.	Aerial and field surveys, using permanent and temporary transects. Aerial or ground counts and population and harvest data from Washington Department of Wildlife.	District Ranger and Wildlife Staff	Annual with evaluation report every fifth year at a minimum.
WILDLIFE						
Primary cavity excavators population trends and snag numbers, sizes, species and use.	Determine if habitat for snag dependent species is being managed properly.	Number of snags and live wildlife trees per acre. Wildlife use of snags by species, location, and habitat.	Sufficient standing and down, dead and defective trees to support at least 60% of potential woodpecker populations.	Pre-and-post project review of snag numbers and live wildlife trees/acre in harvest units.	District Ranger and Wildlife Staff	At least one presale and one postsale project/district year, randomly selected.
WILDLIFE						

Barred owl and other old growth dependent species habitat diversity	Determine if old growth habitat is being managed to maintain viable populations of old growth dependent species and meet management objectives for barred owl. $15,000	(1) Areas of suitable old growth habitat. (2) Number of successful nests and owls.	Estimates of old growth acres in no less quantity or quality than predicted in the Plan. No more than 25% drop in nesting or 50% nesting failure.	(1) Old growth inventory, (2) Project reconnaissance (3) Timber stand exams (4) Calling counts	District Ranger and Wildlife Staff	10% of the MA-1 areas annually for population and nesting.
WILDLIFE						
Monitor levels of indicator species habitats and utilization including: marten, pileated woodpecker, northern three-toed woodpecker, grouse, beaver, raptors, herons, northern bog lemming, other sensitive or unique wildlife.	Determine if forest wildlife habitat for indicator species is being managed at acceptable levels.	Acres of suitable habitat in defined distribution; localized population or activity trends within specified areas.	Defined management objectives are being met.	Aerial photographs and field examination of habitat including transects and call and count routes. Department of Wildlife records.	District Rangers, Wildlife Staff, and Washington Dept. of Wildlife.	At least one presale and one postsale project/district per year, randomly selected. Unique and sensitive species habitats annually.
THREATENED, ENDANGERED AND SENSITIVE ANIMALS AND PLANTS						
Bald eagle, caribou and grizzly bear population trends, and habitat quality and quantity; plant occurrence and distribution.	To determine if management and recovery objectives for Threatened, Endangered and Sensitive species are being met.	Numbers of caribou, grizzly bear, and nesting and wintering bald eagles. Acres and utilization of seasonal habitat components. Acres of suitable habitat and occurrence and distribution of plants.	No drop in populations and no more than a 2% drop in suitable habitat as modeled.	Field surveys. Modeling of habitat components and effects of activities that modify them. Five year activity schedule evaluations.	District Ranger, Range and Wildlife Staff, State Department of Wildlife, United States Fish and Wildlife Service, Washington Natural Heritage Program.	At least one project for each species affected/district/year with evaluation report every third year. As needed for activity monitoring. Update activity schedule evaluations at least every 5 years.

TABLE 5.2 (Continued)

MONITORING ITEM	ACTIONS/EFFECT	UNITS	VARIABILITY THRESHOLD	SUGGESTED METHODS	WHO WILL MONITOR	FREQUEN
FISHERIES						
Habitat capability and productivity, trout species and size composition.	Determine if trout habitat meets management objectives.	Pounds of trout, species and size composition, and stream habitat condition.	No loss in habitat capability	Systematic field sampling of selected streams and lakes. Results of inventories and catch information	District Ranger, Fisheries Staff and Washington State Department of Wildlife	Annual
RANGE						
Range improvements	Range improvements accomplished as planned	Range improvements	Actual vs. planned accomplishments are not the same	Review of annual accomplishment reports	Range Staff	Annual
RANGE						
AUM's permitted	Comparison of produced vs. planned outputs	Animal Unit Months	10% below targeted Animal Unit Months for the Forest.	Annual Use Report	District Ranger and Range Staff	Annual
RANGE						
Utilization of forage	Determine if forage utilization levels in (1) riparian areas and (2) upland areas are consistent with applicable standards and guidelines.	Percent utilization in grazing allotments	10% of recommended use per allotment	Sample key areas (transects, photographs-FSH 2509.21), on at least 30% of the allotments annually. Allotments should be sampled at least every four years with the highest priority placed on known or suspected problem areas.	District Ranger	Annual
RANGE						

Conditions of Riparian and Range resources.	Determine if vegetative condition and trend is being maintained or improved in riparian and upland areas to meet Forest Plan objectives. Determine if areas are in a satisfactory condition.	Ratio of cover to bare ground and streambank condition evaluation in grazing allotments.	Condition, and trend score card value for fair or better condition with/upward trends	Range condition and trend transects and stream channel cross-section measurements, streambank condition evaluation (Haugan 1987), photo point standard documentation, observations and temperature measurements.	District Ranger	Allotments which are less than satisfactor condition every 5 ye and a minimum 10% of the allotments annually.
TIMBER						
Restocking of lands	To determine if NFMA requirements and plan assumptions for cutover lands are being met.	Harvest unit, number, type, and distribution of regeneration.	The elapsed time from site availability to stocking does not exceed [CFR 219.27(c)(3)]	Reforestation stocking surveys	District Ranger and Timber Staff	1st, 3rd, a 5th years reforestati

TABLE 5.2 (Continued)

MONITORING ITEM	ACTIONS/EFFECT	UNITS	VARIABILITY THRESHOLD	SUGGESTED METHODS	WHO WILL MONITOR	FREQUENCY	LO DA
TIMBER							
Timber yields in existing and regenerated stands	Effects in volume/acre resulting from even and uneven age management (existing) and from genetic tree improvement.	Timber volume by even/uneven aged management and per breeding zone.	Plus or minus 10% of long term sustained yield	Accumulate yields by harvest method, permanent growth plots.	District Ranger and Timber Staff	Annual; every 2 years per breeding zone	G
TIMBER							
Condition of lands not suited for timber production	Determine changes in classification for suitability	Acres of unsuitable land	Update to identify areas for Forest Plan revision	Scheduled multi resource inventory and on-site visitations	District Ranger and Timber Staff	Once per planning period prior to plan update	G
TIMBER							
Size and dispersal of harvest units	Whether size and dispersal of harvest units has met standards and guidelines and were exceptions conducted in accordance with proper notice and review.	Size and dispersal of created openings	Units larger than standards and guidelines permit, or proper procedure was not followed. Ref. [36CFR 219.12 (k)(5)	Interdisciplinar y activity reviews, review of sale EAs.	District Ranger and S.O. Staff	As needed for Forest Plan update, every 3 years.	24 fil
TIMBER							
Acres per Management Area of various silvicultural practices.	Silvicultural practices are accomplished as planned for each Management Area.	Number of acres harvested by silvicultural system by Management Area. Number of acres harvested in roadless areas.	Total acres treated by each practice is plus or minus 10% of planned objective. When threshold is exceeded, ASQ should be adjusted by the Earned Harvest Factor calculated for the practice involved.	Field exams. SILVA, TSI, and Reforestation Attainment element in TRACS data base.	District Ranger and S.O. Staff	Annual	24 fil
WATER							

Water quality, including cumulative effects.	Water quality objectives for each SMU class of stream. Cumulative effects of management activities on water quality.	Water quality parameters (turbidity, bacteria, temperature, etc.)	Water quality meets goal on SMU Class I, II or III stream. 10% deviation from projected values in EA's or EIS's.	Stream sampling for specific parameters upstream and downstream of the activity. Field observations on sample basis. Use aerial photographs and TRI records.	District Ranger and Watershed Staff	Variable according to level of project activity.	25 S.

TABLE 5.2 (Continued)

MONITORING ITEM	ACTIONS/EFFECT	UNITS	VARIABILITY THRESHOLD	SUGGESTED METHODS	WHO WILL MONITOR	FREQUENCY
RIPARIAN						
Protection/management of riparian resources including floodplains and wetlands.	Assure management of riparian areas protects or enhances riparian resources.	Riparian area	Meet the standards and guidelines for riparian areas and direction in Executive Orders 11988 and 11990.	Pre-and-post project reviews on at least one project that impacts a riparian area, floodplain, or wetland per district per year.	District Ranger and Watershed Staff	Twice during the duration of the project.
SOIL						
Changes in soil productivity.	To determine if soil management and conservation practices are being implemented and to assess their effectiveness.	Percentage of detrimental soil disturbance and/or vegetative recovery or growth loss. Amount of organic matter retained in harvest units.	Minimum of 80% of an activity area will be left in a non-detrimental impacted state following a soil disturbing activity.	Field reviews, transects, soil sampling, photopoints.	Watershed Staff	Annual review of one project per district, quantitative sampling of at least one project every two years.
FACILITIES, ROADS						
Transportation System Management	Open road density. Operation, construction, and reconstruction of arterial, collector, and local roads as related to objectives established in the Forest Plan.	Miles of open road per square mile and maintenance levels	Departure from Forest Plan estimates	Compare road mileage with Management Area Objectives	Forest Engineer and District Ranger	Annual
INSECT AND DISEASE POPULATION						
	Insect/Disease infestation	Acres infested	When control populations at endemic levels	Aerial and ground survey	District Ranger and Timber Staff	Reoccurring with other activities
CULTURAL RESOURCES						

	To compare recommended site treatment with actual site treatment. To detect vandalism or natural degradation and determine need for protection.	Compliance with protection plan. Sites visited.	Probability of significant damage to site.	Annual visits to sites within project areas on a sample basis. Annual visits to all interpreted sites and sites within developed recreation areas.	Recreation Staff	Annual
ECONOMICS						
Comparison of actual and planned implementation costs and value.	To compare projected expenditures and value with actual expenditures and value. $1,000	Dollars spent	5% deviation from total Financial Work Plan as compared to Forest Plan projections.	Extract actual costs and compare with plan estimates.	PP&B Staff	Annual (Quarterly)
ECONOMICS						
Economic effects of Plan implementation.	To compare projected estimated economic effects with actual.	Dollars	None. Reflect any changes in Forest Plan update.	Compare actual payments to counties and returns to the Treasury with Forest Plan projections.	PP&B Staff	Bi-annual
PLANNING						
Coordination with adjacent owners	Determine if activities of NFS are affecting adjacent owners.	Effects	If effects are such that an issue is developing.	Review project NEPA documents.	Planning Staff	Continuing

TABLE 5.2 (Continued)

MONITORING ITEM	ACTIONS/EFFECT	UNITS	VARIABILITY THRESHOLD	SUGGESTED METHODS	WHO WILL MONITOR	FREQUENCY
PLANNING						
Modeling assumptions (primarily FORPLAN)	Comparison of the projected outputs and effects modeled in the Forest Plan with the actual outputs and effects.	Selected parameters by resourcesheed. Number of resourcesheds in the Forest: Colville - 9; Kettle Falls - 8; Newport - 5; Republic - 9; Sullivan Lake - 9.	Plus or minus 20% in each area; subsequent area analysis to determine if pattern exists.	Area analysis	Land Management Planning	One area analysis per district per year.
MINERALS						
Operational and administrative effectiveness and reasonableness of minerals activities.	Effectiveness of operational stipulations and reclamation requirements. - Timely responses to minerals proposals - Impacts to other resources - Success of rehabilitation. Operator/Administrator conflicts and appeals.	Operating plans	Time frames for Forest Service response are being met at least 90% of the time. Mitigation for resources are accepted and complied with. Fewer than 10% of the cases (plans, leases, permits) are appealed. At least 80% of the disturbed land (that is available for reclamation) treated as prescribed in the reclamation plan within 2 years.	Project and EA review/continuous	District Ranger and Minerals Staff	Annual

COMMUNITY EFFECTS	Changes in local income	Dollars	+/- 15% in 3 years (corrected for inflation)	U.S. Census, State publications, Co., & local agency reports, etc.	Planning Staff	Annually/Annually
	Changes in local population	Thous. of persons	+/- 15% in 3 years	U.S. Census, State publication, Co. & local agency reports, etc.	Planning Staff	Annually/Annually
	Changes in local employment patterns	Thous. of persons by industry of occupation	+/- 15% in 3 years	U.S. Census, State publication, Co. & local agency reports, etc.	Planning Staff	Annually/Annually
	Changes in payments to counties	Dollars	Fails to meet plan objectives	Review payments to counties reports	Planning Staff	Annually/Annually
	Changes in lifestyles, attitudes, beliefs or values	Various	Established trend toward Forest-Community conflict or identification of problems	Interviews with key publics and opinion leaders in communities, observation, etc. (See FSH 1909.17)	Planning Staff	Biennial Reporting/Quarterly Monitoring
	Changes in Forest contribution to area forest products industries	MMCF/yr % industry distribution	Fails to meet plan objectives	Tracking of raw material flow to mills; industry mix	Planning Staff	Annually

AMENDMENT AND REVISION

The Forest Plan incorporates legal mandates, professional judgement and the public's stated concerns into a future vision of the Forest. It charts a path for getting there by developing management goals and objectives and translating them into management direction in the form of standards and guidelines for management areas on the Forest. National Forest planning is a dynamic process, and the products -- Forest Plans -- are similarly dynamic. Forest Plans can and should be modified if conditions warrant. As management goals are applied on the ground or as new information is learned about resources, the Plan's goals, and objectives, or activities the goals generate, may no longer be appropriate. In such instances, activities may be tailored to fit the resource, or planning objectives as stated in the Plan may be amended. Plans do not apply direction in site-specific management activities. It would be unrealistic to try to identify, analyze, and schedule the myriad projects or activities that occur on a National Forest. Instead, this type of site-specific planning occurs at the project-level planning stage, such as allotment management planning.

The Forest Supervisor may amend the Forest Plan. Based on an analysis of the objectives, standards, and other contents of the Forest Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the Plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a Forest Plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

A Forest Plan shall ordinarily be revised on a ten-year cycle or at least every 15 years. It may also be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the Plan have changed significantly or when changes in Resource Policy Act (RPA) policies, goals, or objectives would have a significant effect on Forest level programs. In the monitoring and evaluation process, the Interdisciplinary Team may recommend a revision of the Forest Plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of the Forest Plan. The Forest Supervisor shall review the conditions on the land covered by the Plan at least every five years to determine whether conditions or demands of the public have changed significantly.

FORESTWIDE STANDARDS AND GUIDELINES

The following standards and guidelines apply to those National Forest System lands within the Colville National Forest. They are intended to be used with national and regional policies, standards and guidelines contained in Forest Service manuals and handbooks, and the Pacific Northwest Regional Guide. These standards and guidelines, when used in conjunction with the management prescriptions for the management areas, set the overall management direction for the Colville National Forest. They apply Forest-wide and are in addition to the management prescriptions.

RECREATION

1. Recognize undeveloped campsites, outstanding scenic, geological, botanical areas or areas where concentrated recreation use occurs as being significant in providing dispersed recreation opportunities. Inventory, evaluate, and manage these sites.

2. Limit regulation, constraint, and supervision of recreation use to the minimum necessary for resource protection, visitor satisfaction, and safety.

3. Encourage public participation in recreation planning.

4. Whenever possible, other resource activity planning should incorporate plans to provide or improve compatible recreation facilities or services.

5. Provide the public with appropriate information on recreation opportunities and knowledge of forest resource management.

6. Emphasize "pack in - pack out" policy.

7. Update the existing situation Recreation Opportunity Spectrum (ROS) map in the Forest data base or Geographical Information System (GIS) every five years.

8. Provide for a broad range of ROS settings and recreational opportunities such as hunting, fishing, gathering forest products, viewing scenery, camping, hiking, and floating.

9. Developed facilities will be administered and maintained to provide visitor safety and sanitation, protect facility and site resources, and provide for visitor recreation needs and convenience.

10. Provide for a full range of new or expanded recreation facilities commensurate with projected public needs and desires.

11. Encourage partnership arrangements with user groups and other recreation providers to develop and maintain a diverse and balanced range of recreational services and facilities.

12. Where the need exists, facilities in existing developed sites should be modified to make them usable by the handicapped. Future developments will be planned and designed to make facilities accessible to the handicapped.

13. A comprehensive and approved site plan shall be developed prior to site construction, reconstruction or expansion in accord with requirements specified in FSM 2330.

14. Emphasis is to be placed on upgrading (rehabilitation) existing sites to meet todays recreational user needs and desires prior to proposing additional sites.

15. The capacity of existing recreation facilities will be based on average peak season weekend use. New or additional facilities will be justified when the average peak weekend use reaches 90 percent of the PAOT capacity of the site.

VISUAL RESOURCE MANAGEMENT

1. Cut blocks, patches, or strip cuts shall be shaped and blended to the extent practicable with the natural terrain.

2. Immediate foreground areas (approximately 500 feet) around significant dispersed recreation sites will be managed to meet the retention visual quality objective.

3. Foreground retention areas are to be managed for at least 30 percent of the stand to be 21 inches DBH (diameter at breast height) or greater in size.

4. Partial retention foreground areas are to be managed for at least 30 percent of the stand to be 16 inches DBH or greater in size.

TRAILS

1. Develop and manage trail system as a recreation facility. Plan trail difficulty levels to complement Recreation Opportunity Spectrum and Wilderness Recreation Opportunity Spectrum management objectives.

2. Sign all system trails outside wilderness to provide for user safety and convenience. Wilderness system trails will be signed for user safety only.

3. Cooperate with state and counties on grooming snowmobile trails and on development of trail systems where appropriate.

4. Different skill levels of users will be provided for and considered when designing trails and related facilities. A spectrum of opportunities for winter recreation will be maintained, including primitive dispersed opportunities with no facilities.

5. Protect trails and facilities during management activities with appropriate mitigation measures.

6. Reconstruct and/or relocate trails and facilities during management activities.

7. Trails interrupted by logging or road construction will be restored or substitute trails provided so the mileage of trails in a given area is not diminished. Trails may be closed during logging or construction activities for public safety. Clear directions for users will be provided during logging or construction activities on trails which will be kept open.

8. Encourage trail use of closed roads where there is a demonstrated need, or projected future demand, and conflicts with other uses can be mitigated.

9. Designate areas for off-road vehicle (ORV) use through the Forest Travel Implementation Schedule and in conformance with ROS designations for specific areas. Manage ORV use to minimize resource damage and to promote public safety.

10. Ensure that ORV use, including over-snow type, is managed to mitigate their impacts on other resources, promote safety of users, and minimize conflict with other uses.

WILD AND SCENIC RIVERS

1. Protect from degradation the outstanding values, scenic and recreation characteristics of the Kettle River and its environments, pending a decision on its inclusion into the Wild and Scenic River System.

CULTURAL RESOURCES

1. Maintain and update the Forestwide cultural resources overview that summarizes and compiles cultural resources information.

2. Inventory all areas where ground-disturbing activities are planned in order to discover all reasonably locatable cultural resources.

   Concurrently, the Forest will develop a survey strategy to guide an inventory of all National Forest lands to identify all reasonably locatable cultural resources, and an implementation schedule to accomplish the inventory on lands not affected by projects.

3. Cultural resources identified through the inventory will be evaluated according to the criteria of the National Register of Historic Places.

4. Nominate cultural resources that meet the appropriate criteria to the National Register of Historic Places. Nominations will be scheduled incidentally until completion of the forestwide inventory of cultural resources.

5. Protect the resources considered eligible for the National Register of Historic Places from project activities by making reasonable efforts to avoid adverse impacts to the resources or develop a procedure to conserve the values through proper scientific methods and study.

   Protect eligible cultural resources from human depredation and natural destruction. Protection may include physical protection such as fences and barriers, scientific study and collection, patrol and site monitoring, proper use and removal of signs, maintaining site anonymity, and gaining public understanding and support through education.

6. Eligible historic sites will be maintained or the resultant adverse effect will be mitigated to the extent practical.

7. Promote and provide for the interpretation of cultural resources for educational benefits.

8. Coordinate long-term management of cultural resources with the State Historic Preservation Officer and others as necessary.

   Coordinate management of American Indian traditional religious sites with the Colville Confederated Tribes, the Kalispel, and the Spokane Tribes. Present information about planned project activities within traditional territories of any of these tribes to the concerned tribe, and allow them the opportunity to provide information about those areas and to participate in the inventory.

WILDLIFE

1. Develop and maintain wildlife and fish habitat at prescribed levels through:
   a. Coordination with all management activities.
   b. Prevention of significant damage to Forest wildlife and fish communities.
   c. Direction of cultural practices.

2. The following management indicator species habitats will be managed as directed in the specific management prescriptions:
   Caribou (MA 2)
   Deer and Elk Winter Range (MAs 6 & 8)
   Old Growth Dependent Species (MA 1)

3. Management indicator species groups will be managed as follows: (Note: Areas within which habitat units are to be confined will be no more than twice as long as wide. Distribution of habitat units is measured center to center. Prescribed distances are averages and may vary up to 20 percent. If suitable habitat does not currently exist in the proper distribution, timber stands will be managed to provide it at the earliest possible time.)

a. **Pileated Woodpecker** - Within Douglas-fir and cedar/hemlock working groups, within a 1,000 acre unit: maintain 300 acres of conifers in seral/stages VI and/or V, (Thomas, et. al, 1979) per pair for reproducing.

Maintain a minimum average of two hard snags/per acre more than 12 inches DBH within the 300 acre reproductive area. Forty-five of these 600 snags should be more than 20 inches DBH.

When possible maintain reproductive area in 300 contiguous acres. If not possible, habitat may be arranged in blocks no less than 50 acres and no more than 1/4 mile apart.

Maintain a minimum average of two hard snags/per acre more than ten inches DBH on an additional 300 acres for feeding.

Distribution is five miles.

b. **Northern Three-toed Woodpecker** - Within subalpine fir working groups and lodgepole pine components of other timber working groups, maintain 75 acres of conifers in seral stages VI and/or V, distributed every two miles. Maintain a minimum average of two hard snags per acre more than ten inches DBH, within the 75 acre reproductive area. Forty-five of these 150 snags should be more than 12 inches DBH.

c. **Primary Cavity Excavators** - Maintain dead and defective tree habitat capable of supporting at least 60 percent of the potential population of primary cavity nesters within land areas that are generally no larger than normal harvest unit size. These densities will be maintained through the full rotation on these areas by providing for green replacement trees.

In early successional stages (grass/forb, seedlings, and saplings) of even-age management, the required snags will be managed in patches wherever the existing distribution of snags and live trees allows. In stands with a forested structure (uneven-age management or mid-to-late stages of even-age management) either patches of snags or more evenly distributed snags are acceptable.

Where adequate snags are not currently available to meet the management requirement (MR) direction (20 percent) in each 40-acre area, created snags should be used to meet that direction as nearly as possible. If snags cannot be created, higher snag levels can be managed in adjacent areas and averaged with the low levels in deficient areas to meet MR direction.

Specific numbers and sizes of snags will be identified to fit the species needs for the particular habitat being managed using appropriate guidelines from Thomas, et. al. (1979). Retain hardwood trees; i.e., cottonwood and aspen.

Manage to provide a minimum of two down, dead trees per acre. Minimum size of these logs will be 15 feet long and 14 inches diameter at the small end. If logs of this size are not available, the largest available ones will be left.

d. **Franklin's Grouse** - Within Management Areas 5, 6, 7, and 8, in areas of extensive lodgepole pine, maintain a distribution of age classes so that within each area of 5,000 acres, at least 1,000 acres are less than 20 years of age. In addition, maintain at least 50 percent of the early age class lodgepole stands in an unthinned condition. Precommercial thinning may occur on these stands after the average tree age exceeds 20 years. Meet this standard within the intent of overall management area objectives.

Optimum unit size is 20 acres or less, however, size may approach 40 acres. Density of open roads through these stands will not exceed one mile per square mile except during active projects (to protect lynx habitat).

e. **Blue Grouse** - In park-like or open timber on and near ridgetops, maintain mature limby Douglas-fir or subalpine fir at a rate of at least eight or more trees per acre, either individuals or in groups. Insure hiding cover around at least 50 percent of the perimeter of each spring or other water source, with no break in cover exceeding 600 lineal feet along the waters edge.

f. **Raptors and Great Blue Heron** - Manage the nest sites and surrounding areas to insure their continued usefulness to the respective species.

g. **Beaver** - Maintain or enhance beaver habitat.

h. **Furbearers** - Most furbearers are within one or more management indicator species groups. Other forest management activities that may adversely effect furbearer habitat or populations are responsible for mitigation of those effects.

i. **Waterfowl** - Maintain or enhance waterfowl habitats.

j. **Northern Bog Lemming** -The northern bog lemming is a management indicator species on the Colville National Forest by virtue of its limited habitat which could foreseeably be reduced by management activities. The management goal for the northern bog lemming is to maintain at least the 1980 habitat capability.

k. **Marten** - Every 2 to 2 1/2 miles, provide units of at least 160 acres of conifer timber in successional stages VI (old growth), or V (Mature) where stage VI is not currently available. These stands will have crown cover of 50 to 100 percent and will be of species composition that will provide habitat suitable for marten. Within these units preserve natural snag densities and windthrown trees. Minimum objectives will be two snags per acre more than 12 inches DBH, of which at least one in every seven acres will be more than 20 inches DBH, and at least six down trees per acre, preferably with root wads attached.

4. Give special consideration to management or protection of unique habitat components, not covered by other management indicator species, during evaluation of activities that may effect such habitats and the species that are dependent on them. Evaluate the species status, dependency on the component, and the extent or limitation of the component as factors influencing the viability of populations within the Forest or the range of the species.

5. Endangered and threatened species, other than caribou which are covered under a management strategy, will be treated as follows:

   a. **Grizzly Bear** - Manage grizzly bear habitat in accordance with the Interagency Grizzly Bear Guidelines, Colville National Forest Guidelines for Management in Occupied Grizzly Bear Habitat (Appendix H, FEIS), national policy, and Grizzly Bear Recovery Plan.

      --Evaluate cumulative effects of management activities within each grizzly bear management unit (GBMU).

      --Within each GBMU, insure that the following essential elements are provided:
      (1) Sufficient forage for each season of use to meet the requirements of a recovered population.
      (2) Seventy square miles or more of seclusion (area with no currently active roads or high human activity areas).
      (3) Denning habitat within range of each GBMU.
      (4) Access corridors to insure uninhibited movement of bears between essential habitat components and between GBMU's.

      --Where caribou and grizzly bear habitats coincide, needs of the caribou will take precedence by virtue of its endangered status.

      --Restrictions on some recreation activities may be necessary within occupied grizzly bear habitats to reduce potential grizzly bear/human conflicts. No new trails or access points will be developed that would tend to increase use in the Selkirk grizzly recovery area.

   b. **Bald Eagle** - Manage bald eagle habitat in accordance with national policy, the Pacific States Bald Eagle Recovery Plan, and Bald Eagle Management Guidelines: Oregon-Washington. In so doing, the Forest will address habitat needs for present and recovery levels of bald eagles.

      --Conduct inventories of nesting habitat within Forest boundaries.
      Inventories will identify habitat with potential for nesting use, as well as areas actually selected and used. Schedule of inventory activity will follow the Recovery Plan's Implementation Schedule for the next 5 years.

      --Evaluate cumulative effects of management activities on bald eagle nesting habitat to insure continued suitability of both currently selected and identified potential sites.

--Conduct on-going monitoring of bald eagle activity in the vicinity to identify nesting and other habitat (roosting, wintering, migration) potential and use on the Forest. Manage any essential habitat components that are discovered to support bald eagle recovery.

c. **Peregrine Falcon** - Monitor possible nest sites for peregrine activity and support recovery plans and efforts.

d. **Wolf** - Investigate reports of gray wolf sightings on the Forest. Report significant findings to the U.S. Department of the Interior, Fish and Wildlife Service, and the Washington Department of Wildlife for inclusion on the Washington National Heritage Program database. If resident wolves are discovered, initiate appropriate actions to insure protection of the animals and compliance with recovery plans in effect at the time.

e. **Woodland Caribou** - Manage all identified Woodland Caribou habitat, regardless of designated Management Area, in accordance with Colville National Forest Guidelines for Management of the Selkirk Mountain Caribou Habitat (Appendix I, FEIS), national policy, and the Caribou Recovery Plan. Those areas outside the currently identified recovery habitat will be managed using the guidelines until the scheduled Recovery Plan revision (estimate 1991-92) so as not to preclude meeting long term recovery objectives. If, by that time, these acres have not been added as being necessary for recovery then, standard prescriptions for the identified management area will be applied.

6. Maintain and update lists of sensitive plants and animals periodically as new information is collected. Sensitive species lists for the Forest will be maintained and kept current with State and Forest Service Regional lists. Submit pertinent Forest information to the appropriate agency for inclusion in the data base.

7. No actions that are likely to jeopardize the continued existence of any plant or animal species or cause the need for listing any species threatened or endangered, will be authorized, funded, or carried out by the Colville National Forest. When evaluating the potential effects of an activity on any species, the species status, its dependency on the effected habitat, and the extent or limitation of the habitat, will be evaluated as they influence the viability of populations within the Forest or the range of the species.

8. Biological evaluations, biological assessments, and consultations with the U.S. Fish and Wildlife Service will be done, as appropriate, to ensure that no activity permitted, funded or carried out by the Forest Service jeopardizes the continued existence of a threatened or endangered species or adversely modifies the essential habitat of such species.

9. Initiate control with Washington State Department of Wildlife of animal populations that threaten public health or safety, or cause or threaten to cause unacceptable damage to other resources, wildlife populations or property. Control measures will be as specific as possible to target species, offending individuals, or offending population segments. Take no control measures that may threaten the continued existence of any species or population.

10. Manage predator habitat as a primary defense against wildlife agents that damage other resources. In cases where game animals or furbearers are causing damage, the State Department of Wildlife will be requested to increase hunting or trapping on the problem population, or to provide direct control. Habitat manipulation and repellents will be considered when feasible and cost effective.

11. Big game habitat capability models will be used in project planning to provide the quality, quantity, and distribution of cover and forage needed to reach management objectives for each planning area.

FISHERIES

1. Fish habitat enhancement will be carried out as indicated in the discussion of the "Wildlife Program." Statewide Comprehensive Fish and Wildlife Plans, coordinated with the Washington Department of Wildlife, will be updated annually as a source document to prioritize fisheries projects. The Forest's fisheries program will be responsive to the projects of the Northwest Power Planning Council, the Upper Columbia United Tribes, and the Colville Confederated Tribes.

2. Protect existing fish habitat from degradation where feasible. Rehabilitate habitats which have been degraded as a result of management activities where degradation is unavoidable. Mitigation will be at the affected site, when possible, but may be through off-site habitat enhancement when on site mitigation is not possible.

3. Emphasize management of native fish species habitat. Non-native species may be managed for in waters where they can be expected to provide at least 15 percent more biomass production or 15 percent more angler days recreation than native species. Non-native species may be used to provide diversity only where they will not adversely affect native fish or other native organisms in the affected or adjacent waters.

4. Road crossings of Class I and II streams and fish-bearing Class III streams will be the minimum necessary. Existing crossings will be used whenever possible. New crossings will be located at areas of the least possible stream gradient. Stream crossing structures will provide the least resistance to upstream fish passage. Bridges or bottomless arches will be used instead of culverts unless the culvert can be installed in a manner that will allow passage of native trouts during their spawning period.

   Drainage from roads will be dispersed prior to entering streams.

5. Maintain the general character of aquatic and riparian habitat features. Maintain a natural source of large woody debris to provide structural fish habitat.

6. In-stream migration barriers will normally be removed unless desired to prevent immigration by undesirable fish or when other aquatic organisms or when their removal would cause degradation to the stream and/or aquatic habitat.

7. Maintain water quality parameters within the range of good fish habitat conditions, and within State water quality standards.

   Streams:
   - Temperature - less than 16 degrees Celsius, provided that temperature increases resulting from a non-point source will not exceed 2.8 degrees Celsius above the natural base-line of the stream.
   - pH - Natural levels are normally between 6.5 and 9.0 on the Colville N.F. Man-caused variation will not exceed 0.2 units.
   - Dissolved Oxygen - more than 9.5 mg/L.
   - Total dissolved gas - not to exceed 110 percent of saturation.
   - Turbidity - Changes not to exceed 5 NTU where base-line turbidity is less than 50 NTU; changes not to exceed a 10 percent increase where base-line is more than 50 NTU.
   - Sedimentation - management activity caused suspended and bedload sediments when accelerate channel changes and/or reduce bank stability will be considered excessive, and mitigation will be implemented. Signs of unacceptable sedimentation are new bank cutting, bar building, filling of pools, covering of spawning gravels and riffles, bright colored bottom materials, and lack of or significant changes in population composition of aquatic invertebrates. In the event of such occurring, an assessment of the drainage will be done to determine probable cause and need for action to correct or mitigate for habitat degradation.

   Lakes:
   - Natural water quality parameters will vary in lakes depending on the depth, volume, bottom materials, water sources, soils, vegetation, etc. Meeting standards for the source streams will normally protect lakes adequately. Unacceptable changes will be assessed to determine the causes, and appropriate protective or corrective actions will be taken.

RANGE

1. Management of grazing by domestic livestock will be guided by project level allotment plans. The development of these plans will be integrated with the needs associated with use and values present in the area. All associated uses and values will be considered, with special consideration given to: (1) fish and wildlife habitat needs; (2) timber harvest and cultural activities; (3) riparian values; (4) recreation use; and (5) threatened, endangered and sensitive species. Further considerations are contained as other resource standards and guidelines in this section of the plan.

2. Identify lands in unsatisfactory condition (see glossary). Develop allotment plans with specific objectives for these lands on a priority basis under a schedule established by the Forest Supervisor. These objectives will define a desired future condition based on existing and potential values for all resources. The allotment plan will include: (1) a time schedule for improvement; (2) activities needed to meet forage objectives; and (3) an economic efficiency analysis.

3. Livestock stocking levels in project plans will be determined by considerations including: (1) Forage availability, suitability and condition; (2) other resource needs as shown above; (3) demand for grazing on the allotment and other livestock forage needs; (4) permittees ability to self-monitor management and maintenance in project allotment management plans and grazing permits; and (5) economic factors including development and maintenance cost of facilities.

4. Coordination requirements in the above considerations will include: (1) timing of the timber harvest and associated activities and grazing schedules; (2) protection of livestock barriers or mitigation of these values where desirable; (3) reducing the spread of noxious weeds and controlling noxious weeds where present; (4) seeding of livestock and wildlife forage species, considering desirability of seeding palatable and non-palatable forage species and species competitive with tree production; and (5) livestock-wildlife conflicts, i.e. restrict domestic sheep grazing on Bighorn sheep range.

5. Table 4.15 (Allowable Use of Available Forage, Riparian Areas) and Table 4.16 (Allowable Use of Available Forage, Suitable Range Except Riparian Areas) the standards for utilization which will be used in preparing allotment plans in both riparian and other areas to be grazed:

Table Error! No text of specified style in document.**.1:Allowable Use of Available Forage in Riparian Areas**

TABLE 4.15
ALLOWABLE USE OF AVAILABLE FORAGE 1/
RIPARIAN AREAS
(Percent)

	Maximum annual utilization Grass & Grasslike 2/		Shrubs 3/	
Range Resource Management Level (FSH 2209.21 R-6)	Satisfactory Condition 4/	Unsatisfactory Condition 5/	Satisfactory Condition 4/	Unsatisfactory Condition 5/
B - Livestock use managed within current grazing capacity by riding, herding and salting. Cost-effective improvements used only to maintain stewardship of range.	40	0-30	30	0-25
C - Livestock managed to achieve full utilization of allocated forage. Management systems designed to obtain distribution and maintain plant vigor include fencing and water development	45	0-35	40	0-35
D - Livestock managed to optimize forage production and utilization. Cost-effective culture practices improving forage supply, forage use and livestock distribution may be combined with fencing and water development to implement complex grazing systems.	50	0-40	50	0-35

1/This will be incorporated in Allotment Management Plans. Allotment Management Plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet objectives for the riparian dependent resources. Includes cumulative annual use by big game and livestock.
2/Utilization based on percent removed by weight.
3/Utilization based on incidence of use, weight, and/or twig length. Example: If 50 leaders out of 100 are browsed, utilization is 50%.
4/Satisfactory Condition - see glossary (satisfactory condition is determined by allotment classification and/or forage condition).
5/Unsatisfactory Condition - see glossary (anything not "satisfactory").

Table Error! No text of specified style in document.**.2:Allowable Use of Available Forage in Suitable Range Except Riparian Areas**

TABLE 4.16
ALLOWABLE USE OF AVAILABLE FORAGE 1/
SUITABLE RANGE EXCEPT RIPARIAN AREAS

	Maximum annual utilization (percent) 2/					
	Forest		Grassland		Shrublands	
Range Resource Management Level (FSH 2209.21 R-6)	Satisfactory Condition 3/	Unsatisfactory Condition 4/	Satisfactory Condition 3/	Unsatisfactory Condition 4/	Satisfactory Condition 3/	Unsatisfactory Condition 4/
B - Livestock use managed within current grazing capacity by riding, herding and salting. Cost-effective improvements used only to maintain stewardship of range.	40	0-30	50	0-30	40	0-25
C - Livestock managed to achieve full utilization of allocated forage. Management systems designed to obtain distribution and maintain plant vigor include fencing and water development.	45	0-35	55	0-35	45	0-30
D - Livestock managed to 4/ optimize forage production and utilization. Cost-effective culture practices improving forage supply, forage use, and livestock distribution may be combined with fencing and water development to implement complex grazing systems.	50	0-40	60	0-40	50	0-35

1/This will be incorporated in annual operating plans and Allotment Management Plans. Allotment Management Plans may include standards which are either lower or rarely higher when associated with intensive grazing systems and specific vegetation managem objectives which will meet resource objectives. Includes cumulative annual use by big game and livestock.
2/Utilization based on percent removed by weight for grass, grasslike, and forbs.
3/Satisfactory condition - See glossary (satisfactory condition is determined by allotment classification and/or forage condition).
4/Unsatisfactory condition - See glossary (anything not "satisfactory").

TIMBER

1. Uneven age silvicultural systems will be favored in perennial riparian areas and foreground or middleground areas with a visual quality objective of Retention or Partial Retention. Generally, even-age silvicultural systems will be favored in areas with a visual quality objective of Modification or Maximum Modification.

2. All vegetative manipulation such as harvests, thinnings, release, planting, salvage, brush control and stand conversion will be prescribed by a certified silviculturist. Direction for tying silvicultural prescriptions to management direction is contained in Appendix E, FEIS.

3. Harvest of timber stands will generally occur at or beyond 95 percent of Cumulative Mean Annual Increment (CMAI). Exceptions to this will be permitted where it can be shown that overall multiple use objectives will be better attained or for the use of sound silvicultural practices for thinning and other stand improvement practices, salvage or sanitation harvesting for flood, fire, windthrow, or stands that are in danger from insect or disease attack.

4. Region Six Regional Guide for the Pacific Northwest Region Standard and Guide 4-2 will be followed for utilization standards. Standards in timber sale contracts may vary depending on markets and costs of harvesting.

5. If minimum stocking or better is not found on a site by the fifth year after site preparation occurs, the site will be planted unless natural regeneration is imminent.

6. Mature lodgepole pine stands will be given priority for treatment because of the high risk of mountain pine beetle attack.

7. Genetically improved planting stock will be developed through the superior tree/seed orchard program.

8. Numbers of trees growing on regenerated harvest areas will be controlled using a variety of methods.

9. Provide for and promote firewood gathering by the public. Availability of firewood will be governed by resource objectives such as the needs of snag-dependent wildlife, soil conditions, and access. Consider firewood removal in road management decisions and timber sale design.

Size and Dispersal of Openings and State of Vegetation

1. Forest openings created by the applications of even-age harvest cutting methods shall be limited to a maximum size of 40 acres. Exceptions are permitted for natural catastrophic events (such as fires, windstorms, or insect and disease attacks) or on an individual basis after a 60-day public notice period and review by the Regional Forester. In addition, the limits may be exceeded by as much as 50 percent without

necessitating review by the Regional Forester or 60 days public notice when exceeding the limit will produce a more desirable combination of net public benefits and when any one of the following four criteria is met:

a. When a larger created opening will enable the use of an economically feasible logging system that will lessen the disturbance to soil, water, fish, riparian resources, or residual vegetation. Such lessening is to be achieved by reducing landing or road construction, by enabling such construction away from unstable soil, or by reducing soil and vegetation disturbance caused by dragging logs.

b. When created openings cannot be centered around groups of trees infected with dwarf mistletoe or root rot and therefore need to be expanded to include these trees in order to avoid infection of susceptible adjacent conifers.

c. When visual quality objectives require openings to be shaped and blended to fit the landform.

d. When larger openings are needed to achieve regeneration objectives in harvest areas being cut by the shelterwood method and where destruction of the newly created stand would occur as a result of delayed removal of shelter trees. This exception applies only to existing shelterwood units and to shelterwood units under contract prior to approval of the Forest Plan.

2. Created openings will be separated by blocks of land that generally are not classed as created openings and that contain one or more logical harvest units. These areas shall be large enough and contain a stand structure appropriate to meet resource requirements of the Forest Plan. Resource requirements may include wildlife habitat, watershed, landscape management, and others. Contiguous harvest units (cornering or otherwise touching) are not precluded, but must be considered as a single opening which must be created within requirements for size, exception procedures, and justification.

   The total area of created openings contiguous to 30-acre or larger natural openings should normally not exceed one-third the size of the natural opening and not occupy more than one-third of the natural opening perimeter. Openings should not be created adjacent to any natural openings (regardless of size) unless adequate vegetation along the edge can be developed or retained in sufficient density to protect wildlife and visual management objectives. The determination of adequate vegetation will be made by an appropriate interdisciplinary team.

3. A harvested area of commercial forest land will no longer be considered a created opening for silvicultural purposes when stocking surveys, carried out in accordance with Regional instructions, indicate prescribed tree stocking that is at least 4-1/2 feet high and free to grow. When other resource management considerations (such as wildlife habitat, watershed needs, or visual requirements) prevail, a created opening will no longer be considered an opening when the vegetation in it meets a particular management objective stated in the Forest Plan. For example, the objectives for a specified big-game winter range might require trees to be 20 feet tall before the adjacent stand may be harvested. In other instances, entry may be made sooner to meet specific resource or management requirements.

SOIL, WATER, AND AIR

1. National Forest System lands will be managed under the principles of multiple use and sustained yield without permanent impairment of land productivity.

    a. The total acreage of all detrimental soil conditions should not exceed 20 percent of the total acreage within the activity area including landings and system roads. Consider restoration treatments if detrimental conditions are about 20 percent or more of the activity area. Detrimental soil conditions (see Glossary, FEIS) include compaction, puddling, displacement and severely burned soil.

    b. Skid trail requirements must be specified in timber sale contracts that require tractor yarding.

    c. Identify areas of high soil erosion or mass failure potential and evaluate probable impacts of resource development.

    d. Retain organic matter to maintain site productivity.

2. Municipal Supply Watersheds (See Glossary, FEIS) will be managed to provide water at a level of quality and quantity which, with appropriate treatment by the purveyor, will result in a satisfactory and safe water supply, recognizing that watershed protection can supplement but not be a substitute for adequate treatment.

    a. Meet Washington State water quality standards for surface water.

    b. Developed recreation facilities are not appropriate unless necessary to protect the water resource.

    c. Pesticide use will be coordinated with the local municipality.

    d. Range management practices will be adjusted as necessary to meet State water quality standards.

    e. Plans for exploration and development of mineral resources will include reasonable, operationally feasible provisions to protect riparian values and meet State water quality standards.

    f. Stabilize road surfaces, where needed, with crushed rock to minimize erosion and sedimentation.

    g. Appropriate wildfire suppression responses will be consistent with water resource objectives.

    h. Prescribed fire (planned ignitions) may be used where water resource objectives can be maintained.

3. Comply with State requirements in accordance with the Clean Water Act for protection of waters of the State of Washington (Washington Administrative Code, Chapters 173-201 and 202) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act, regulations, and federal guidance issued thereto.

   In cooperation with the State of Washington, the Forest will use the following process:

   a. Select and design BMPs based on site-specific conditions, technical, economic, and institutional feasibility, and the water quality standards for those waters potentially impacted.

   b. Implement and enforce BMPs.

   c. Monitor to ensure that practices are correctly applied as designed.

   d. Monitor to determine the effectiveness of practices in meeting design expectations and in attaining water quality standards.

   e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected.

   f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level. Evaluate the appropriateness of water quality criteria for reasonably assuring protection of beneficial uses. Consider recommending adjustment of water quality standards.

   Use the existing agreed to process to implement the State Water Quality Management Plan on lands administered by the USFS as described in Memorandum of Understanding (MOU) between the Washington Department of Ecology and U.S. Department of Agriculture Forest Service (7/79), and "Attachment A" referred to in this MOU (Implementation Plan for Water Quality Planning on National Forest Lands in the Pacific Northwest 12/78).

   For a more complete explanation of the above, refer to Appendix G in the FEIS, "Best Management Practices".

   Individual, general Best Management Practices are described in General Water Quality Best Management Practices, Pacific Northwest Region, 11/88. This provides guidance but is not a direction document. Also included in that document is a description of the process, and limitations and use of these BMPs. Each BMP listed includes the Title, Objectives, Explanation, Implementation and Responsibility, and Monitoring. Evaluations of ability to implement and estimated effectiveness are made at the project level.

   Not all of the general BMPs listed will normally apply to a given project, and there may be specific BMPs which are not represented by a general BMP in this document.

The sensitivity of the project determines whether the site-specific BMP prescriptions are included in the Environmental Assessment/Environmental Impact Statement , the sale/project plan, or the analysis files.

4. Instream flow on National Forest System Lands should be protected through site specific analysis of proposed water uses, diversions, and transmission applications in accordance with the National Environmental Policy Act, 1969 (NEPA) and renewal of permits. Protection of instream flow needs may be achieved through filing protests with states where applications are made that adversely affect National Forest resources, asserting claims for this water under Federal or State laws where applicable, inserting protection measures into special use permits, or reaching formal agreements over use. Purchase of water rights and impoundments are other means for reducing these impacts.

5. In watersheds where project scoping identifies an issue or concern regarding the cumulative effects of activities on water quality or stream channels, a cumulative effects assessment will be made. This will include land in all ownerships in the watershed. Activities on National Forest System lands in these watersheds should be dispersed in time and space to the extent practicable, and at least to the extent necessary to meet management requirements. On intermingled ownerships, coordinate scheduling efforts to the extent practicable.

6. Revegetate, cut and fill slopes, and other large areas of disturbed soil as quickly as possible with vegetation suitable for the management goals of the area.

7. Where dust abatement is necessary on forest roads, avoid contamination of water courses.

8. Protect cooperative snow courses as required by current agreement with the Soil Conservation Service. Existing sites include: Summit G.S., Butte Creek, Goat Creek, Chewelah, Baird, and Bunchgrass Meadows.

9. Management activities within the Forest will be planned to maintain air quality at a level adequate for the protection and use of the National Forest resources, and which meets or exceeds applicable Federal and State standards and regulations.

    a. The Forest will coordinate with the appropriate air quality regulatory agencies.

    b. The Forest will demonstrate reasonable progress in reducing total suspended particulate (TSP) emissions from prescribed burning.

    c. All prescribed burning will be planned and conducted in accordance with State smoke management plans.

    d. Considerations will be given to the use of the mitigating measures listed in the FEIS for the Pacific Northwest Regional Guide to reduce emissions from prescribed burning.

    e. The best available predictive methods and models and the most cost-efficient technology will be used to minimize the impact of prescribed burning on smoke sensitive areas and Class I areas.

f. The Forest air resource will be protected against pollution sources outside Forest boundaries through application of the Prevention of Significant Deteriorations (PSD) regulations contained in the Clean Air Act. Special protection will be afforded Air Quality Related Values (AQRVs) found in Class I Wildernesses. Information on both PSD and AQRVs is available in the Air Resource Management Handbook.

RIPARIAN

1. Special attention shall be given to land and vegetation for approximately 100 feet from the edges of all perennial streams, lakes and other bodies of water. This area shall correspond to at least the recognizable area dominated by the riparian vegetation. No management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment shall be permitted within these areas which will seriously and adversely affect water conditions or fish habitat.

2. Emphasize protection and improvement of soil, water, vegetation, fish, and wildlife resources while managing the riparian areas under the principles of multiple use and sustained yield. Give preferential consideration to riparian dependent resources when conflicts among land use activities occur. These areas will be managed by the Streamside Management Unit (SMU) use classification, where practices that might affect water quality, fish and other aquatic resources are modified to meet water quality goals established for each class of stream (see Appendix G of the FEIS). The riparian areas associated with wetlands will be managed as Class I SMUs.

   a. Minimize developed recreation facilities within riparian areas while protecting riparian dependent resources. All sanitary facilities will meet State and Federal standards. Dispose of solid waste in accordance with State and Federal disposal standards.

   b. Off-road vehicle use is restricted to essential crossings.

   c. Maintain and improve the habitat of fish and aquatic and terrestrial wildlife. Maintain the general character of the aquatic and terrestrial habitats. Natural debris, plus trees needed for a future supply, will be maintained and managed to: (1) maintain or enhance stream channel and bank structure so as to maintain or enhance water quality in SMU Class I and II streams, and (2) provide structural fish habitat to meet the objective (resident fish populations) provided for in the Forest Plan.

   d. Allow grazing utilization of no more than 50 percent of the current year's forage growth. Allow no more than five percent livestock related bare soil within the riparian area. Develop adequate water sources for livestock outside of the riparian zone.

e. Silvicultural prescriptions and harvest schedules will be designed to meet water quality goals. Uneven-age regeneration systems (individual tree) will be used on Class I, II, and III streams. The largest trees in the stand will be greater than 200 years of age for Class I streams, 120 years for Class II, and 80 years for Class III.

Some trees will be retained for longer periods of time and others will not be harvested, so as to provide for streambank stability, a future supply of large woody debris for stream channels, and fish habitat and stream temperature control. These exceptions will be determined through site-specific assessments.

f. Minimize soil disturbance by not operating during wet periods and through selection of logging systems. Logging debris will be prevented from entering water courses or will be removed.

g. Road construction in riparian zones will be limited to stream crossings unless determined otherwise by site-specific analysis. Numbers of stream crossings will be minimized and they will be constructed to minimize sedimentation and to allow fish passage where appropriate. The needs of native fishes will normally be emphasized over those of introduced ones.

h. Temperatures will not be increased on SMU Class I streams. Temperature increases on SMU Class II (and fish-bearing SMU Class III) streams will be limited to the quantitative criteria in State Standards. Temperatures on SMU Class III and IV streams will not deteriorate water quality below the water quality goals for downstream SMU Class I and II (and fish-bearing SMU Class III) streams. Exceptions must be based on scientific rationale, fully maintain existing beneficial uses of the water, and be approved through an Environmental Assessment.

i. Meet the requirements of Executive Orders: 11988, Floodplain Management; and 11990, Protection of Wetlands.

3. Identify range allotments with riparian areas in unsatisfactory condition (see glossary), i.e., (1) On suitable range, forage condition is not at least fair, with a stable trend, or (2) Classification is PC or PD.

4. Range allotment management plans will include a strategy for managing riparian areas for a mix of resource uses. A measurable desired future riparian condition will be established based on existing and potential vegetative conditions. When the current riparian condition is less than that desired, objectives will include a schedule for improvement. The allotment management plans will identify management actions needed to meet riparian objectives within the specific time frame. Measurable objectives will be set for key parameters, such as stream surface shaded, streambank stability, and shrub cover. This process is described in "Managing Riparian Ecosystems (Zones) for Fish and Wildlife in Eastern Oregon and Eastern Washington" (1979). The allotment plan will address the monitoring needed to determine if the desired rate of improvement is occurring. Allotment management plans currently not consistent with this direction will be developed or revised on a priority basis under a schedule established by the Forest Supervisor.

LANDS

1. Existing special uses which conflict with management objectives will be modified to comply or will not be renewed.

2. Electronic sites will be permitted when in compliance with management area objectives.

3. Resolve occupancy trespass by using the Small Tracts Act authority. Administrative or legal action will be taken as soon as possible on cases where the Small Tracts Act is not applicable.

4. Accomplish property boundary surveys, posting and marking to support planned or on-going resource projects, solve or prevent trespass, and assist Forest users in identifying public lands. Adjacent landowners will be encouraged to share costs of surveying common boundaries.

5. Access to National Forest System lands will be obtained to meet Forest Plan goals.

6. Private landowners will be granted reasonable access across National Forest System land, subject to applicable regulations and policies. Where reasonable access alternatives across other ownerships exist, authorization to cross National Forest land will generally not be granted.

7. New transportation/utility proposals will be accommodated within existing corridors to the maximum extent feasible. Additional corridors needed for major utilities or highways will be designated through an interagency environmental analysis.

8. Disturbance from the construction of utility facilities (electric, phone, water, and gas lines) will be promptly rehabilitated.

LANDOWNERSHIP ADJUSTMENT

1. Coordinate landownership adjustment planning with Washington State Department of Wildlife, Washington State Department of Natural Resources, Colville Confederated Tribes, Kalispel Tribes and county governments.

2. Where possible, balance acreage of Federal and non-Federal lands to be exchanged within the same county in order to minimize effects on payments to the counties.

TRANSPORTATION

1. Provide and maintain public road and trail access to National Forest System lands. User safety will be the primary emphasis.

2. Road construction and reconstruction standards will be the minimum necessary to meet user and resource needs.

3. Coordinate transportation planning and road management with state and local agencies and intermingled landowners.

4. Accommodate the demand by the public for access into firewood gathering areas where possible, consistent with management area goals.

5. Implement seasonal or long-term road and area closures where necessary to:
   - Protect public safety.
   - Protect resource values such as threatened and endangered wildlife species and their habitat, cultural resources, soil and water quality, and wildlife.
   - Prevent damage to the road system.
   - Comply with cost share agreements.
   - Protect non-public use facilities (e.g., microwave or weather stations).
   - Eliminate traffic on single purpose roads after the activity is completed to reduce road maintenance costs.

6. New single-purpose Service Level D roads will be closed after the resource activity is complete unless the environmental assessment requires keeping them open. The road management objectives will be used to document the decision.

7. Unless the necessity for a permanent road is set forth in the Forest Development Road System Plan, any road constructed shall be designed with the goal of reestablishing vegetative cover on the roadway within ten years after the termination of the contract.

8. Develop and implement a forest-wide travel management schedule.

MINERALS

1. The laws and related regulations shall be administered to facilitate the discovery and development of mineral resources; at the same time, the goal is to achieve the fullest practicable coordination with the surface resources.

2. Under the mining law, claimants are entitled to access to their mining claims. Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan. A decision on approval of reasonable access will be made as a result of appropriate environmental analysis.

3. During development of operating plans, or plan modifications, reasonable alternative mitigation measures and/or operating requirements and stipulations will be developed to define the minimum stipulations needed to best protect other resources while still meeting the objectives of the mineral operator. The test for operating plan requirements is "reasonableness."

4. Reasonable reclamation objectives and standards will be developed through an interdisciplinary process. This includes consideration of reasonable opportunities to enhance other resources. Concurrent reclamation will be stressed. Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource input.

5. Mining claim location corners and improvements will be protected during Forest Service management activities.

6. Avoid or minimize Forest management related investments where conflicts with existing or foreseeable mineral activities could conflict with those investments.

7. Minimize the National Forest acreage to be withdrawn from mineral entry to that necessary for protecting dedicated areas such as developed recreation sites, wilderness, Research Natural Areas, and administrative sites.

8. Provide common variety minerals and materials if consistent with the management area direction. Authorize common variety exploration and removal under terms and conditions to prevent, minimize, or mitigate adverse impacts on surface resources and uses. The objective of reclamation requirements will be to return disturbed land to the planned uses.

9. Mineral lease applications or proposals will be reviewed in a timely fashion. Require appropriate special lease stipulations when necessary to protect surface resources and/or sustain the management area direction. Required measures and conditions for surface resource protection will be provided to the Bureau of Land Management.

COMMUNITY STABILITY AND HUMAN RESOURCES

1. All human resource programs sponsored by local, state and federal governments, and the volunteers in the National Forest program will be utilized where the opportunity arises based on funding and personnel needs.

2. The Forest shall continue to make positive efforts to gain strength through diversity and obtain a diverse work force by 1995.

INDIAN RIGHTS AND CLAIMS

The ceded land rights and privileges of the Colville Confederated Indian Tribes will be considered and appropriately provided for in all Forest activities.**1**/

FIRE MANAGEMENT

Wildfire Response

1. All wildfires will receive an appropriate suppression response. This response and the associated fire suppression strategies will be the most cost effective commensurate with land management objectives for the area on which wildfire occurs.

2. Apply aggressive suppression action to wildfires that threaten life, private property, public safety, improvements, or investments.

3. In most cases, when wildfires do not threaten to exceed acceptable sizes and intensities for the management areas, the lowest cost suppression option is appropriate.

4. If a wildfire escapes initial action and threatens to exceed established limits, an escaped fire situation analysis shall be prepared. This analysis weighs the cost of suppression against the resource potential losses. Suppression actions should be appropriate for the values threatened, even on escaped fires.

Presuppression (NFMAS)

1. Forestwide planning will utilize the National Fire Management Analysis System to determine the most cost-efficient fire protection organization. As conditions change and better information is developed, the fire organization will be reevaluated with this system.

2. Cost-effective plans for the prevention of human-caused fires will be aimed at specific risks determined by ongoing monitoring of current and recent fire reports.

1/ With the Executive Order which established the Colville Reservation in 1872, tribal members were given specific rights. Among those rights are hunting and fishing. An Act of July 1, 1892, restored the north one-half of this reservation to public domain. All of the Colville National Forest west of the Columbia River was included in this tract. However, the U.S. Supreme Court in the Antoine Decision of 1975 determined that the tribal members' rights to hunting and fishing were retained through this transaction. These rights will be considered through management of appropriate resources such as fish, wildlife, and riparian areas.

3. The mix of aerial and ground detection activities will be reviewed periodically to maintain the most cost-efficient combination.

4. Provide equipment and training for USDA Forest Service employees outside of the fire management organization to assist in initial attack.

Fuel Treatment

1. Alternative methods of treatment for activity residues (logging slash) and natural fuels will be addressed in project-level planning and will be commensurate with resource management objectives.

2. Burning plans will be prepared in advance of ignition and approved by the appropriate line officer for each prescribed fire. Burning plans will define what an escaped fire is. A fire that escapes will be declared a wildfire and an escaped fire situation analysis will be prepared.

3. Normally, prescribed fire will be by planned ignition. Unplanned ignitions may be used as prescribed fires if: 1) a prescribed fire plan has been prepared and approved; 2) the fire is burning within prescription; and 3) there are enough resources available to provide the staffing and funding necessary to carry out the existing prescribed fire plan.

4. All fuel treatments will conform to air quality guidelines.

5. Provide for retention of the kind and amount of residues needed on-site for the benefit of multiple resources (soil, water, wildlife).

6. Recognize the social and economic values of and provide for individual firewood gathering.

7. The following fire hazard reduction applications should be considered:

    a. **Utilization:** Harvest techniques such as top yarding, improved utilization methods identified in mill operation and log manufacturing studies, and residue treatment methods that optimize firewood use.

    b. **Rearrangement:** Fuels may be redistributed on-site to a less hazardous condition or one which produces faster deterioration or removal.

    c. **Removal: F**uels may be moved off-site for use, storage, or disposal.

    d. **Disposal:** The reduction or elimination of fuels by prescribed burning or manual, mechanical, chemical, or biological means.

    e. **Conversion:** Replacing flammable with less flammable vegetation.

    f. No reduction.

INTEGRATED PEST MANAGEMENT

1. Integrated pest management strategies will be utilized to manage pests within the constraints of laws and regulations and to meet Forest management objectives. Integrated pest management strategies include manual, mechanical, cultural, biological, chemical, prescribed fire and regulatory means. Strategy selection will be based on environmental analysis and the management objectives of the area where the action is needed.

2. Emphasis will be given to the control and reduction of noxious weed infestations. A variety of management tools are available and will be used to treat prioritized high risk infestations.

FACILITIES

1. Buildings, utility systems, and related facilities should be planned, developed, maintained and operated for safe use, support of the Forest resource programs, and cost effectiveness.

2. The construction of new buildings or additions to existing buildings and utility systems, shall comply with the approved site development plan.

Appendix A

APPENDIX A

RECREATION AND WILDERNESS PROJECTS

RECREATION PROJECTS
(1st Decade)

Table Appendix A .1:Recreation and Wilderness Projects

	FIRST FIVE YEARS		SECOND FIVE YEARS	
ACTIVITY/PROJECTS	COST (Thousands) $	OUTPUTS (PAOTs)	COST (Thousands) $	OUTPUTS (PAOTs)
Developed Site Reconstruction/Construction				
Meadow Lake Recreation Site Challenge Cost Share	30.0 **1**/	75		
East Sullivan Lake CG Expansion	200.0	150		
Browns Lake Campground Upgrade	150.0			
Lake Gillette Dock & Lake Leo Boat Ramp	50.0			
Gillette Reservation Campsite	50.0	40		
South Skookum Campground Rehab./Boat Ramp	100.0			
Pioneer Park Campground Rehab.	200.0			
Davis Lake Campground Water System	20.0			
Toilet Reconstruction	100.0			
Kettle Crest Horse Campground	50.0	25		
Bead Lake Boat Launch	75.0	50		
Renner Lake Water Treatment	5.0			
Canyon Creek Campground	50.0	20		
Noisy Creek Campground Overflow	50.0	50		
Lake Sherry Campground	20.0	80		
Bang's Mtn. Vista Picnic Area	20.0	15		
Panhandle Park Rehab./Boat Ramp	150.0			
Gypsy Meadows Horse Camp	50.0	40		
North Fork Chewelah Creek Campground	20.0	50		
Pierre Lake Campground Rehab.	50.0			
Two Campground Development Studies	13.0			

Trout Lake Campground/Boat Ramp	40.0	30		
Lake Ellen West Campground	50.0	50		
7 Campground Development Surveys			42.0	
Millpond CG Expansion			250.0	50
Mystic Campground			250.0	50
Dispersed Toilets			100.0	
Bead Campground			150.0	50
Handicap Fishing Pier			14.0	6
Edgewater CG Rehab and Group Camp			150.0	30
Sullivan Lakeshore Shaping			50.0	50

1/Denotes only cost to appropriated Forest Service funds in a cooperative project.

APPENDIX A (Continued)

	FIRST FIVE YEARS		SECOND FIVE YEARS	
ACTIVITY/PROJECTS	COST (Thousands) $	OUTPUTS (Miles)	COST (Thousands) $	OUTPUTS (Miles)
Trail Construction/Reconstruction				
Columbia Mtn. Loop Challenge Cost Share	5.0 1/	5.0		
Nelson-Calispell Challenge Cost Share	30.0 1/	15.0		
Millpond Interpretive Challenge Cost Share	30.0 1/	2.0		
Sherman Loop Trail Challenge Cost Share	20.0	5.0		
Thirteen Mile	55.0	12.5		
Jungle Hill	16.0	2.5		
Sherman Pass Tie	11.0	3.3		
Snow Peak	6.0	2.0		
Shedroof Divide	12.0	2.0		
Prouty Peak	42.0	7.5		
S. Fork Silver	10.5	2.5		
N. Fork Silver	12.0	2.7		
Gillette Ridge	52.0	9.0		
Old Stage Trail	25.0	5.0		
Browns Lake	10.0	1.2		
Deer Creek Summit	12.0	3.0		
Hoodoo Construction	30.0	2.8		
Canyon Creek Barrier Free	4.0	1.0		
Hoodoo Reconstruction	9.2	3.7		
Bead Lake	54.0	6.0		
N. Fork Sullivan Creek	52.0	9.6		
Slate Cr. X-Country Ski	9.2	6.0		
Sherman Lake Loop	9.5	1.5		
Browns Lake	10.0	1.2		
S. Skookum	25.0	1.0		
Ryan Cabin	12.0	2.2		
Cooper Creek	8.0	2.5		
Taylor Ridge I	31.0	9.5		
Taylor Ridge II	45.0	4.0		
Smalle Creek Falls	25.0	5.0		
Albion Cross Country Ski	24.0	4.0		

Flume Creek	17.0	4.0		
Edds Mountain	26.0	4.0		
Baldy Mountain	24.0	3.0		
Empire Lake	15.0	4.0		
Hooknose	24.0	4.0		
Hall Mountain	21.2	4.2		
Red Bluff	36.0	5.3		
X-Country Geophysical			18.0	
Hall Mtn. Grassy			20.5	5.1
Grassy Top			10.5	4.1
Big Gib			8.0	2.0
Camel Back			17.0	2.0
Crowell Ridge			35.0	7.6
Slate Creek			7.0	4.2
Shedroof Cutoff			4.5	.8

1/ Denotes only cost to appropriated Forest Service funds in a cooperative project.

	FIRST FIVE YEARS		SECOND FIVE YEARS	
ACTIVITY/PROJECTS	COST (Thousands) $	OUTPUTS (Number)	COST (Thousands) $	OUTPUTS (Number)
Companion Trailhead Construction				
Wolf TH	7.0	1		
Thirteenmile TH	24.0	1		
Nelson-Calispell TH	4.0	1		
Millpond TH	6.0	1		
N. Snow Peak TH	8.0	1		
Old Stage TH (2)	33.0	1		
Pass Creek TH	7.0	1		
Bead Lake TH	9.0	1		
N. Fork Sullivan Crk. TH	8.0	1		
Sherman Pass TH	12.0	1		
Deer Creek TH	8.0	1		
Lambert TH	5.0	1		
Marcus TH	5.0	1		
Sherman TH	5.0	1		
Halliday TH	6.0	1		
White Mtn. TH	7.4	1		
Pend Oreille River TH (2)			30.0	1
Red Bluff TH			15.0	1
Slate Creek TH			15.0	1

APPENDIX A (Continued)

ACTIVITY/PROJECTS	FIRST FIVE YEARS COST (Thousands)$	FIRST FIVE YEARS OUTPUTS (Acres)	SECOND FIVE YEARS COST (Thousands)$	SECOND FIVE YEARS OUTPUTS (Acres)
Viewshed Implementation Plans				
Sherman Highway	20	18,410		
Sullivan Creek	20	9,749		
Highway 31	20	12,565		
Tiger Highway	20	15,253		
Aladdin Highway	20	20,714		
Bead Lake	15	6,015		
Pend Oreille Highway			20	54,719
Scatter Creek Road			10	4,479
Boulder/Deer Cr. Road			20	11,669
Sanpoil Highway			10	1,642
S. Boulder/Albion Hill Road			20	17,130

ACTIVITY/PROJECTS	FIRST FIVE YEARS COST (Thousands)$	FIRST FIVE YEARS OUTPUTS (Number)	SECOND FIVE YEARS COST (Thousands)$	SECOND FIVE YEARS OUTPUTS (Number)
Campground Vegetative Management Plans				
Lake Gillette	3	1		
Lake Thomas	3	1		
Lake Leo	3	1		
Millpond	3	1		
Ferry Lake	3	1		
Long Lake	3	1		
S. Skookum Lake			3	1
Davis Lake			3	1
Lake Ellen			3	1

Edgewater	3	1
Little Twin Lakes	3	1

APPENDIX B

WILDLIFE AND FISHERIES PROJECTS

The following is the annual fish and wildlife habitat improvement program for the first decade of this Colville National Forest Plan.

Table Appendix B .1:Wildlife and Fisheries Projects

ACTIVITIES AND PROJECTS	UNITS TO ACCOMPLISH
Threatened, Endangered (T&E) Species Administration:	
Grizzly Bear Habitat Protection & Mgmt.	150,000 acres
Caribou Habitat Protection & Management	84,000 acres
Sensitive Wildlife Surveys & Mgmt.	10,000 acres
T&E & Sensitive Plants Surv. & Mgmt.	10,000 acres
Nonstructural Wildlife Habitat Improvement:	
Browse and forage Planting & Seeding	505 acres
Prescribed Burning	1250 acres
Slashing/Pruning	40 acres
Nonstructural Fish Habitat Improvement:	
Beaver/Trout Habitat Rehabilitation	12 acres
Lake Rehabilitation	2 acres
Riparian Vegetation Rehabilitation	7 acres
Spawning gravel placement/cleaning	2 acres
Nonstructural T&E Species Habitat Improvement:	120 acres
Structural Wildlife Habitat Improvement:	
Fence to Protect Improvements	1 structure
Waterfowl Nests	40 structures
Songbird Nest Boxes	200 structures
Raptor (Hawks, owls, osprey) Nest Platforms	12 structures
Snag Development	
Top Girdling	400 structures
Top Blasting	400 structures
Pole Erection (20 ft.)	20 structures
Potholes Development	5 structures
Spring Development	3 structures
Wildlife Escape Ramps	10 structures
Wildlife Cover (Brush Piles)	20 structures
Structural Fish Habitat Improvement:	
Boulder Placement	10 structures
Check Dams	50 structures
Log Deflectors	10 structures
Spawning Facilities	2 structures
Lake Plug	1 structure
Stream Barrier Removal	20 structures
Culvert Replacement	1 structure
Structural T&E Species Habitat Improvement:	
T&E Species Habitat Closures	2 structures
Maintenance of Wildlife Structures	200 structures
Maintenance of Fish Habitat Structures	20 structures
Maintenance T&E Species Habitat Structures	20 structures

Appendix C

APPENDIX C

RANGE IMPROVEMENT PROJECTS

Table Appendix C .1:Range Improvement Projects

FISCAL YEAR

UNIT	ACTIVITY	90	91	92
Colville Ranger District	Fertilization for Oxeye Daisy Control (acres)	150	150	150
	Fences (miles)	1	1	1
	Water development (number)	2	2	2
	Noxious Weed Control (acres treated)	100	100	100
Kettle Falls Ranger District	Fertilization for Oxeye Daisy Control (acres)	0	0	0
	Fences (miles)	1	1	1
	Water Development (number)	2	2	2
	Noxious Weed Control (acres treated)	150	150	150
Newport Ranger District	Fertilization for Oxeye Daisy Control (acres)	175	175	175
	Fences (miles)	1	1	1
	Water Development (number)	1	0	1
	Noxious Weed Control (acres treated)	50	50	50
Republic Ranger District	Fertilization for Oxeye Daisy Control (acres)	0	0	0
	Fences (miles)	2	2	2
	Water Development (number)	4	4	4
	Noxious Weed Control (acres treated)	240	240	240
Sullivan Lake Ranger District	Fertilization for Oxeye Daisy Control (acres)	175	175	175
	Fences (miles)	0	0	0
	Water Development (number)	0	1	0
	Noxious Weed Control (acres treated)	90	90	90

Appendix D

APPENDIX D

TIMBER SALE ACTIVITY SCHEDULE

INTRODUCTION This appendix displays how the timber outputs, as projected by the

preferred alternative in the FEIS, are likely to be provided during the period from 1989 through 1992.

The following tables list the planned timber sales information and conditions current at the time of Forest Plan development. If these conditions change, and as new information becomes available during implementation of the Forest Plan, the timber sale schedule may be modified.

The "small sales" category displayed on the following tables reflects sales that, individually, do not exceed 2.0 million board feet and are generally within areas that have been developed. The small sales program is used to achieve a variety of special purposes such as the salvage of blow-down timber or to remove hazard trees from developed campgrounds. A variety of silvicultural methods may be used depending upon the objective of the individual small sale.

Table D.1 is derived from the Timber Sale Action Program for the Forest. Maps showing the sale areas are available for inspection at the Forest Supervisor's Office and indicated Ranger Districts.

TABLE D.1
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGE MENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILE RECONSTR
COLVILLE DISTRICT				**FISCAL YEAR 1989**			
Current Creek	T38N,R42E, S4-9 T38N,R41E, S1,12	5, 7	439	0	10.0	4.9	0
Longshot	T36N,R40E, S11-14, T36N,R41E, S7,8	5, 6, 7, 8	372	200	3.3	4.0	3.0
M.O.F.O.	T31N,R42E, S19,20	8	0	65	1.3	2.0	0
Passout	T38N,R42E, S19	7	400	0	1.0	0	0
Northmill	T37N,R40E, S24-26	5, 6	124	100	5.0	1.5	0.5
Alfie	T36N,R41E, S19,20,29-32	3, 5, 7	82	80	2.1	1.5	0
Small sales					2.3		
		SUBTOT AL	1,417	445	25.0	13.9	3.5
KETTLE FALLS DISTRICT				**FISCAL YEAR 1989**			
Hart	T36N,R35E, S11-14, T36N,R36E, S7-9,16-21,28-30	5, 7, 8	570	404	9.8	1.8	5.4
Churchill Salvage	T40N,R37E, S23,24, T40N,R38E, S18	7	116	0	0.4	0	0
Thought	T40N,R37E, S31, T39N,R38E, S1,	6, 7, 8	244	0	4.0	1.0	3.7

	T39N,R37E, S6,7						
White Salvage	T35N,R35E, S20,21,28,29	5, 7	192	0	1.0	0	0
Buckhorn Salvage	T35N,R35E, S28, 29, 31-33	5, 7	250	0	2.0	0	0
Barnaby	T35N,R35E, S21,22,27,28,33-35	5, 7	316	0	3.0	0.9	1.5
Small Sales					0.3		
		SUBTOTAL	1,688	404	20.5	3.7	10.6

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRU
NEWPORT DISTRICT				**FISCAL YEAR 1989**			
133	T35N,R45E, S18	5, 7, 8	492	0	12.0	10.8	7.9
NOLA	T35N,R45E, S20,21,28,32	5, 7	246	6	6.0	3.6	0.4
Small Sales					4.0		
		SUBTOTAL	738	6	22.0	14.4	8.3
REPUBLIC DISTRICT				**FISCAL YEAR 1989**			
Copper Mtn.	T36N,R32E, S15	7,8	150	0	2.3	2.0	
Timbrack	T37N,R34E, S32	5, 7	250	0	2.7	1.1	0
Aeneas Creek Salvage	T38N,R34E, S3	5, 7, 8	600	0	7.5	0	0
North Edds Salvage	T36N, R34E, S34	7	1300	0	4.0	4.4	0
Mt. Washington Salvage	T36N,R34E, S27	3, 5, 7	900	0	4.0	3.5	0
Lonely	T40N,R35E, S8	5, 6, 7, 8	420	0	9.7	5.7	2.7
Kara Salvage	T36N,R34E, S22	3, 7	150	0	1.5	0	0
Tonata	T38N,R32E, S15	7	60	0	0.9	0	0

Creek (SSTS)					
	SUBTOTAL	3,830	0	32.6	13.7	2.7

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUC
SULLIVAN LAKE				**FISCAL YEAR 1989**			
Smackout Pass	T38N,R42E, S19-21, 28-30	5, 7	317	0	3.8	1.4	2.1
Little Wolf	T38N,R43E, S2-4,9,10,16 T39N,R43E, S25-27,33-35	5, 6, 7, 8	620	0	8.5	9.2	1.4
Lead Styx	T40N,R44E	5, 6, 7, 8	300	0	6.4	5.7	4.0
Small Sales					1.3		
		SUBTOTAL	1,237	0	20.0	16.3	7.5
FISCAL YEAR 1989 TOTALS			8,910	849	120.1	62	32.6

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUC
COLVILLE DISTRICT				**FISCAL YEAR 1990**			
Middle Port	T37N,R42E, S31-34 T36N,R42E, S3-8,18	5, 7	610	265	12.8	1.5	1.5
United Eagle	T32N,R41E, S27-29, S31-34	5, 6, 7, 8	85	65	5.5	5.2	0
Small Sales					3.4		
		SUBTOTAL	695	330	21.7	6.7	1.5
KETTLE FALLS DISTRICT FISCAL YEAR 1990							
Laddie	T38N,R35E, S13,14,22-27 T38N,R36E, S19,29-32	3, 7, 8	855	50	6.7	3.0	0
Flat	T40N,R38N, S31,32 T40N,R37E, S1,2,11,12 T39N,R38E, S5-9	7, 8	800	0	8.0	10.0	0
Easthill	T40N,R37E, S13-15,21-28 T40N,R38E, S17-20	6, 7	1,000	0	8.0	5.0	3.0
Hoki	T40N,R37E, S4,5,7-9 T40N,R36E, S12,13	5, 7, 8	350	200	5.0	5.0	1.0
Small sales					2.2		
		SUBTOTAL	3,005	250	29.9	23.0	4.0
NEWPORT DISTRICT			**FISCAL YEAR 1990**				
Jewel	T34N,R42E, S14,23,24,25,26	5, 7	325	0	6.0	4.0	0
Snowshoe	T34N,R44E, S21,22,27	5, 6, 7	202	100	6.3	4.5	1.0

Cusick Cr.	T35N,R43E, S26-29, S33-35	5, 6, 7, 8	236		2.0	1.4	5.4
Ruby	T36N,R42E, S25,26 T36N,R43E, S30,31 T35N,R42E, S1,2,12 T35N,R43E, S5,6,7	5, 7, 8	400	0	7.5	12.1	0
Duffy Cr.	T33N,R45E, S5,6 T33N,R44E, S1,2 T34N,R45E, S29-31,32	3, 5, 7	275	40	3.0	.5	3.0
Small Sales					4.3		
		SUBTOTAL	1,438	140	29.1	22.5	9.4

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUC
REPUBLIC DISTRICT				**FISCAL YEAR 1990**			
Brown Camel	T35N,R35E, S8	5, 6, 7, 8	375	265	2.5	3.0	1.0
Peters	T38N,R34E, S26	5, 7	365	0	3.4	2.0	0
Belcher	T38N,R34E, S32	7	385	0	3.6	5.0	0
Big Little	T40N,R33E, S17	6, 7, 8	515	250	13.0	3.0	0.5
Small sales					3.4		
		SUBTOTAL	1,640	515	25.9	13.0	1.3
SULLIVAN LAKE			**FISCAL YEAR 1990**				
Berry Picker	T37N,R42E, S1-12T38N,R42E, S27-36	5, 6, 7, 8	400	0	7.0	3.0	0.5
Gulch	T39N,R44E, S23-27,34,35	3, 6, 7, 8	380	150	3.0	1.5	1.5
Leola Sullivan	T39N,R45E, S2-9,17,18 T40N,R45E, S16,21-28,32-35	2, 3, 5, 7	176	190	5.0	4.0	1.0
Small Sales					1.8		
		SUBTOTAL	956	340	16.8	8.5	3.0
FISCAL YEAR 1990 TOTALS			7,734	1,575	123.4	73.7	19.4

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUC
COLVILLE DISTRICT			**FISCAL YEAR 1991**				
Hound	T38N,R41E, S24,25 T38N,R42, S30,31	5, 7	470	0	11.0	7.0	0
Divine	T38N,R42E, S13,14,22-24,26-27	7, 8	311	0	7.7	4.3	0
Small sales					3.0		
		SUBTOTAL	781	0	21.7	11.3	0
KETTLE FALLS DISTRICT			**FISCAL YEAR 1991**				
Bailey	T37N,R36E, S19,29-31 T37N,R35E, S24,25,36	7	350	0	3.0	2.0	1.0
Roes	T39N,R36E,S30-34 T38N,R36E, S3-5 T39N,R35E, S23,25,26	3, 5, 7, 8	300	140	4.0	3.0	0
Gatorson	T38N,R35E, S35,36 T37N,R36E, S4,5 T38N,R36E, S15,22,27,28	7	1000	0	10.0	5.5	1.0
Deer	T39N,R35E, S13-16,24 T39N,R36E, S19-21,27-30	5, 7	1100	0	11.0	5.0	0
Small sales					1.9		
		SUBTOTAL	2,750	140	29.9	15.5	2.0
NEWPORT DISTRICT FISCAL YEAR 1991							
Squirrel	T35N,R43E, S10,14,22,23,26,27	5, 6, 7, 8	470	100	6.0	7.6	2.6
Calispell	T32N,R42E, S28,29,32,33,34	5, 7	270	50	7.0	2.0	0
Trimble	T33N,R42E, S24 T34N,R43E,	5, 6, 7	320	150	7.0	4.0	0

	S19,29, 30,31,32,33,34 T33N,R43E, S4,9						
Johnson Mill	T35N,R42E, S23,24,25,26 T35N,R43E, S19,30	3, 5, 6, 7, 8	410	20	5.0	2.1	6.8
Small Sales					4.1		
		SUBTOTAL	1,470	320	29.1	15.7	9.4

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUC
REPUBLIC DISTRICT			**FISCAL YEAR 1991**				
Hardscrabble	T38N,R32E, S17	3, 7	305	50	3.0	2.0	3.0
Henton/Lake Butte	T39N,R32E, S26	3, 7	1085	100	11.2	2.5	4.0
Scatter	T35N,R32E, S14	3, 5, 7, 8	630	60	5.0	4.0	0
Line	T36N,R32E, S18	7	367	0	3.5	1.5	0.5
Small sales					3.2		
		SUBTOTAL	2,387	210	25.9	10.0	7.5
SULLIVAN LAKE			**FISCAL YEAR 1991**				
Old Home	T37N,R42E, S1-12 T38N,R42E, S27-36	5, 6, 7, 8	360	0	4.3	0	0.5
Lost Tiger	T37N,R42E, S25,35,36 T36N,R42E, S1,2,11,12	5, 6, 8	0	220	6.2	4.0	2.0
Timber Mite	T40N,R43E, S1,2,11-14,23,24 T40N,R44E, S4-9,17,18	3, 5, 7, 8,	640	120	4.5	4.0	3.0
Small Sales					1.8		
		SUBTOTAL	1,000	340	16.8	8.0	5.5
FISCAL YEAR 1991 TOTALS			8,388	1,010	123.4	60.5	24.4

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUC
COLVILLE DISTRICT			**FISCAL YEAR 1992**				
No Smacks	T38N,R41E, S1-3	6, 7, 8	354	106	9.5	3.0	0.3
Dominion	T36N,R41E, S19,30,31 T35N,R40E, S2-3	7, 8	647	194	8.6	4.5	0
Small sales					3.6		
		SUBTOTAL	1,001	300	21.7	7.5	0.3
KETTLE FALLS DISTRICT			**FISCAL YEAR 1992**				
Trout	T36N,R36E, S13-15,21-28	5, 7, 8	300	0	3.0	5.0	0
Elbow	T39N,R38E, S4,9 T40N,R38E, S20,21, 28,29,33	5, 7, 8	600	0	6.0	6.0	0
Thompson	T38N,R36E, S13,25,26,35,36	6, 7, 8	400	0	4.0	3.0	0
Tom	T38N,R36E, S6-9, 16-18,20,21	7, 8	600	0	6.0	6.0	0
Sisters	T37N,R35E, S2-5,8,9,18,19 T38N,R35E, S28-33	3, 5, 7	450	620	9.0	8.0	0
Small sales					1.9		
		SUBTOTAL	2,350	620	29.9	28.0	0

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUC
NEWPORT DISTRICT			**FISCAL YEAR 1992**				
Fawn Ridge	T34N,R42E, S13 T34N,R43E, S8,9,17,18	3, 5, 6, 7	320	110	7.5	2.2	3.0
Graham	T32N,R42E, S1 T33N,R42E, S25,26,36 T32,R43,S6 T33N,R43E, S31	5, 6, 7	330	75	6.5	3.0	0
Donaldson	T33N,R42E, S32 T32N,R42E, S3,4,6,8	5, 7	180	200	6.0	6.1	0
Browns Lake	T34N,R44E, S14,22-26 T34N,R45, S30	5, 6, 7	210	100	2.0	2.0	2.0
Boulder Mtn.	T34N,R42E, S10,11,12,13,14	5,7	150	50	3.0	2.0	0
Small Sales					4.1		
		SUBTOTAL	1,190	535	29.1	15.3	5.0
REPUBLIC DISTRICT			**FISCAL YEAR 1992**				
Murphy	T36N,R33E, S25	5, 8	112	70	2.0	0.7	0
Santim	T37N,R34E, S19	5, 7, 8	461	150	7.0	3.0	0
Granite	T35N,R34E, S18	7	500	0	5.0	3.7	0
Gold	T36N,R32E, S29	7, 8	1025	0	8.0	2.0	0.5
Small sales					3.9		

SUBTOTAL	2,098	220	25.9	9.4	0.5

TABLE D.1 (Continued)
TIMBER SALE ACTIVITY SCHEDULE

SALE NAME	LOCATION - ALL OR PART OF:	MANAGEMENT AREA(S)	HARVESTED AREA ACRES - EVENAGED	HARVESTED AREA ACRES - UNEVENAGED	VOLUME MMBF	ROAD MILES CONSTRUCT	ROAD MILES RECONSTRUC
SULLIVAN LAKE DISTRICT				**FISCAL YEAR 1992**			
Exposure	T38N,R43E, S13-17,20-24, 26-28,33-35	1, 2, 3, 3W, 4, 4W, 5, 6	690	110	3.0	4.8	1.0
Noisy Divide	T38N,R45E, S19,30,31 T38N,R44E, S8,9,14-17, 20-28, 34-37	2, 3, 5, 7	330	70	5.0	4.0	2.0
Threemile	T40N,R44E, S29-33 T40N,R43E, S36 T39N,R44E, S5,6,7 T39N,R43E, S1,12,13,14,23	3, 5, 6, 7, 8	300	160	7.0	6.5	0
Small Sales					1.8		
		SUBTOTAL	1,320	340	16.8	15.3	3.0
FISCAL YEAR 1992 TOTALS			7,959	2,015	123.4	75.5	8.8

APPENDIX E

WATERSHED RESTORATION PROJECTS

Table Appendix E .1:Watershed Restoration Projects

Project Name	Type of Work	Priority	F.Y.
Sherman 2	Erosion Control	1	1990
Sherman Bank	Erosion Control	2	1990
Sherman Graves 2	Road Stabilization	2	1990
Little Boulder Creek	Erosion Control	3	1992
N. Mill Road	Road Stabilization	4	1992
Mill Homestead	Erosion Control	5	1992
U.S. Mountain	Road Stabilization	5	1992
Bayley Road	Erosion Control	6	1994
King	Channel Stabilization	7	1994
Henry	Erosion Control	8	1994
O'Brien	Channel Stabilization	9	1996
Noisy	Erosion Control	10	1996
Boulder	Erosion Control	11	1996
No Name	Erosion Control	12	1996

Table Appendix F .1:Engineering Capital Investment Proposals

ENGINEERING CAPITAL INVESTMENT PROPOSALS
(TIMBER SALE LOCAL ROADS EXCLUDED)

Name	Length (Mile)	$ (1000)	Ranger District
		General Purpose Roads (First five years)	
S.Sherman Rd 2020	6.7	150	Kettle Falls
Twin Lake Road 9413	1.8	60	Colville
Harvey Creek Road 1935	18.5	300	Sullivan Lake
Barnaby Rd 2014	4.2	120	Kettle Falls
Nordman Metaline Falls Road 22	13.6	350	Sullivan Lake
		(Second five years)	
Bulldog-Cabin 6113	2.0	80	Kettle Falls
Dry Canyon 1933	8.2	120	Sullivan Lake
Bead Ridge 3215	12.4	100	Newport
Scatter Ck 53	7.4	75	Republic
BonAire Road 7018/7012	4.0	100	Colville
Dominion Mountain Road 9411	11.6	250	Colville
Paupac Road 1936	6.0	200	Sullivan Lake

Name	Length (Mile)	$ (1000)	Ranger District
	General Purpose Roads (Continued)		
Cottonwood Road 4342	4.0	150	Colville
Albian Hill Road 2030	4.0	160	Kettle Falls
		Forest Highway Projects (Second five years)	
Flower Trail Rd 4300	9.5	4,400	Colville
Aladdin Hwy 7000	15.4	3,800	Colville
		Bridge (First five years)	
Mill Meadow Bridge 2200	0.5	452	Sullivan Lake
Harvey Creek 337.1	0.1	40	Sullivan Lake
Harvey Creek 1935024	0.1	10	Sullivan Lake
		(Second five years)	
Muddy Meadow Bridge 1700462 0.1	0.1	30	Sullivan Lake
Winchester Creek Bridge 9518 3.2	0.1	30	Newport
Silver Creek Bridge 7078075-0.2	0.1	30	Colville
Tacoma Creek Bridge 2600360-0.1	0.1	30	Newport
Skookum Creek Bridge 5000999-0.1	0.1	40	Newport

Name	Length (Mile)	$ (1000)	Ranger District
		Administrative Site (First five years)	
Sullivan Lake Admin Site	0.5	25	Sullivan Lake
Colville Admin Site	0.1	125	Colville/Supervisor
Admin Site	2.0	90	Republic/Kettle
Republic/Kettle Falls& Job Corps			Falls/Job Corp
		Campground Roads (First five years)	
E.Sullivan Lake Campground	2.4	240	Sullivan Lake
West Sullivan Lake	0.3	30	Sullivan Lake
Brown Lake Campground Roads	1.0	100	Newport
Meadow Lake Campground Road	0.3	30	Colville
Lake Gillette Campground Road	1.4	140	Colville
S. Skookum Campground Roads	1.5	150	Newport
Pioneer Park Campground	1.6	160	Newport
Canyon Creek Campground	0.3	30	Kettle Falls
Noisy Creek Campground Roads	0.6	60	Sullivan Lake
Lake Sherry Campground Roads	1.0	150	Colville

Name	Length (Mile)	$ (1000)	Ranger District
		Campground Roads (Continued)	
Panhandle Park Campground Roads	0.8	80	Newport
North Fk Chewelah Ck Campground Roads	0.3	20	Colville
Pierre Lake Campground Roads	0.6	60	Kettle Falls
Trout Lake Campground Roads	3.0	200	Kettle Falls
Lake Ellen Campground Roads	0.4	40	Kettle Falls
		(Second five years)	
Lake Leo Campground Roads	0.4	40	Colville
Lake Thomas Campground Road	0.5	50	Colville
Little Twim Campground Road	1.8	180	Colvillle
Frater Lake Campground Roads	0.1	10	Colville
Summit Lake Campground Roads	0.1	10	Kettle Falls
Elbow Lake Campground Roads	0.4	40	Kettle Falls
Overlook Campground Roads	0.3	30	Kettle Falls
Swan Lake Campground Roads	1.0	100	Republic
Long Lake Campground Roads	0.9	90	Republic
Ferry Lake Campground Roads	0.5	50	Republic

Name	Length (Mile)	$ (1000)	Ranger District
		Campground Roads (Continued) (Second five years)	
Mill Pond Campground Roads	0.5	50	Sullivan Lake
Cresent Campground Roads	0.4	40	Sullivan Lake
Edge Water Campground Roads	0.6	60	Sullivan Lake
Mystic Campground Roads	1.5	150	Newport
		Trailhead (First five years)	
Trailhead crushed aggregate		20	All Districts
Wolf		7	Newport
Thirteen		11	Republic
Snow Peak		7	Kettle Falls
Old Stage		8	Kettle Falls/ Republic
Sherman Pass		5	Kettle Falls
Pass Creek		7	Sullivan Lake
North Fork		5	Sullivan Lake
Deer Creek		3	Republic
Lambert		4	Republic
Sherman		4	Kettle Falls
Halliday		4	Sullivan Lake
Bead Lake		9	Newport
Marcus		4	Republic
White Mountain		4	Kettle Falls

Name	Length (Mile)	$ (1000)	Ranger District
		Trailhead (Continued) (Second five years)	
Pend Oreille River		10	Sullivan Lake
Red Bluff		7	Sullivan Lake
Slate Creek		8	Sullivan Lake
		FA&O (First five years)	
Sullivan Lake Office		500	Sullivan Lake
Kettle Falls Office Add'n		200	Kettle Falls
Colville Shop/Warehouse		400	Colville
Duplexes,(two)		220	Republic
Bunkhouse		100	Republic
Duplex		110	Sullivan Lake
Sullivan Lk. Warehouse/Equipment Storage		200	Sullivan Lake
		(Second five years)	
Colville Shop/Warehouse		400	Colville
Bunkhouse		200	Sullivan Lake

RESEARCH NATURAL AREA ESTABLISHMENT

Table Appendix G .1:Research Area Establishment

PROJECT	YEAR	COST (
Research Natural Area		
Establishment and Mineral Withdrawal		
Bunchgrass Meadows	92	10
Halliday Fen	92	10
North Fork of O'Brien Creek	93	5
Fire Mountain	94	5
Thirteenmile Ponds	94	5
Round Top Mountain (must be coordinated with Idaho Panhandle National Forest)	93	2
Protection (Barriers & Posting)		
Bunchgrass Meadows	92	5
Monitor for Grazing	Continuing	---
North Fork of O'Brien Creek	Continuing	---
Fire Mountain	Continuing	---
Thirteenmile Ponds	Continuing	---