PREFACE

This Land and Resource Management Plan has been developed for the Salmon National Forest. For information pertaining to the development of this plan, details can be provided by:

Forest Supervisor
Salmon National Forest
P.O. Box 729
Salmon, Idaho 83467

A. APPLICABLE LAWS AND REGULATIONS

The principal acts providing direction in developing this Land and Resource Management Plan are:

1. Multiple Use and Sustained Yield Act of 1960
2. National Environmental Policy Act (NEPA) of 1969
3. Forest Rangeland Resources Planning Act (RPA) of 1974
4. National Forest Management Act (NFMA) of 1976

RPA requires the Forest Service to conduct an assessment or inventory of the Nation's renewable resources and develop a program for use of the resources. The assessment includes the determination of the capability of all National Forest lands to provide various goods and services. It also includes an estimation of future demands for those goods and services.

B. PUBLIC REVIEW AND APPEAL

If any particular provision of this proposed action, or the application thereof to any person or circumstances, is held invalid, the remainder of the proposed action and the application of such provision to other persons or circumstances shall not be affected thereby.

The right to request an administrative appeal of the Regional decision to approve a Forest Plan is contained in 36 CFR 219.10(d). This section refers the reader to 36 CFR 211.18, which describes the appeal process. The appeal is limited to the issues raised during the planning process. Intermediate decisions made during the planning process prior to the approval or disapproval decisions are not reviewable.

Comments should be sent to the Forest Supervisor of the Salmon National Forest.

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I. FOREST PLAN INTRODUCTION

A. PURPOSE OF THE FOREST PLAN

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

The Forest Plan embodies the provisions of the NFMA, the Regulations, and other guiding documents. The prescriptions and standards and guidelines are a statement of the Plan's management direction; however, the project outputs, services, and rates of implementation are dependent on the annual budgeting process.

B. RELATIONSHIP OF THE FOREST PLAN TO OTHER DOCUMENTS

Development of the Forest Plan takes place within the framework of Forest Service Regional and National planning. The relationship among the different planning levels is shown as follows:

Congressional Acts

National level
Forest Service planning through the
Renewable Resource Assessment and Program (RPA)

Regional planning level through the
Regional Guide for the Intermountain Region

Forest level planning through the
Salmon National Forest Land and
Resource Management Plan

The RPA Program sets the National direction and output levels for the National Forest System lands. It is based on suitability and comparability information from each Forest Service Region.

Each Forest Service Region distributes its share of national production targets to each of its Forests. The share each National Forest receives is based on detailed information gathered at the Forest level.

The Land and Resource Management Plan validates or provides a basis for changing production levels assigned by the Region. Activities and projects are planned and implemented by the Forest to carry out the direction developed in the Forest Plan. Information from all the National Forests in the region was used in developing the Intermountain Regional Guide.

Roadless areas studied in the Roadless Area Review and Evaluation (RARE II), RARE I areas covered by the unit planning process and any "new" roadless areas identified since these previous reviews have

also been reevaluated in this planning process. A recommendation for future management of the areas has been made. Congressional Legislation will be needed to designate chosen areas as wilderness. Details concerning the roadless area analysis are in Appendix C of the accompanying Environmental Impact Statement (EIS).

The Forest Plan is the selected alternative of the EIS and is based on the various considerations which have been addressed in the EIS. The planning process and the analysis procedure which were used in developing this Plan, as well as the other alternatives that were considered, are described or referenced in the EIS. Activities and projects will be tied to the accompanying EIS as provided for in 40 CFR 1502.20. The local project environmental analysis will use the data and evaluations in the Plan and EIS as its basis.

The Central Idaho Wilderness Act which established the River of No Return Wilderness - now called the Frank Church--River of No Return Wilderness (FC-RONR) - mandated that a Management Plan for the Wilderness be prepared and coordinated with each of the six involved National Forests' land and resource management planning effort.

A separate plan for the FC-RONR Wilderness has been prepared in accordance with the Act. This comprehensive plan incorporates, as part of its management direction, the Management Plan for the Salmon Wild and Recreational River, completed in 1982. The Land and Resource Management Plan for the Salmon National Forest designates the FC-RONR Wilderness as specific management area(s) and incorporates by reference the approved Wilderness Management Plan. The monitoring and evaluation section of this plan provides for periodic reviews of Wilderness conditions to determine if changes are needed. Forest Supervisors will meet periodically, and at least annually, to determine if the overall management direction in the FC-RONR Wilderness Plan is adequate. One of the involved Forest Supervisors will coordinate the evaluation and any amendments needed, and update the Wilderness Management Plan accordingly.

C. PLAN STRUCTURE

This Forest Plan provides the long term direction for managing the Salmon National Forest. It contains the overall directions and activities which will be required to achieve the desired state of the Forest. Management area maps indicate where the activities will occur.

The EIS describes the alternatives considered in arriving at that direction and assessed the environmental effects of implementing the Plan and other alternatives.

The Forest Plan is organized into five chapters:

Chapter I - Forest Plan Introduction
Chapter II - Analysis of the Management Situation Summary
Chapter III - Plan Responses to Issues, Concerns, and Opportunities
Chapter IV - Forest Management Direction
Chapter V - Implementation of the Forest Plan

Details concerning the various subsections and pages are found in the Table of Contents.

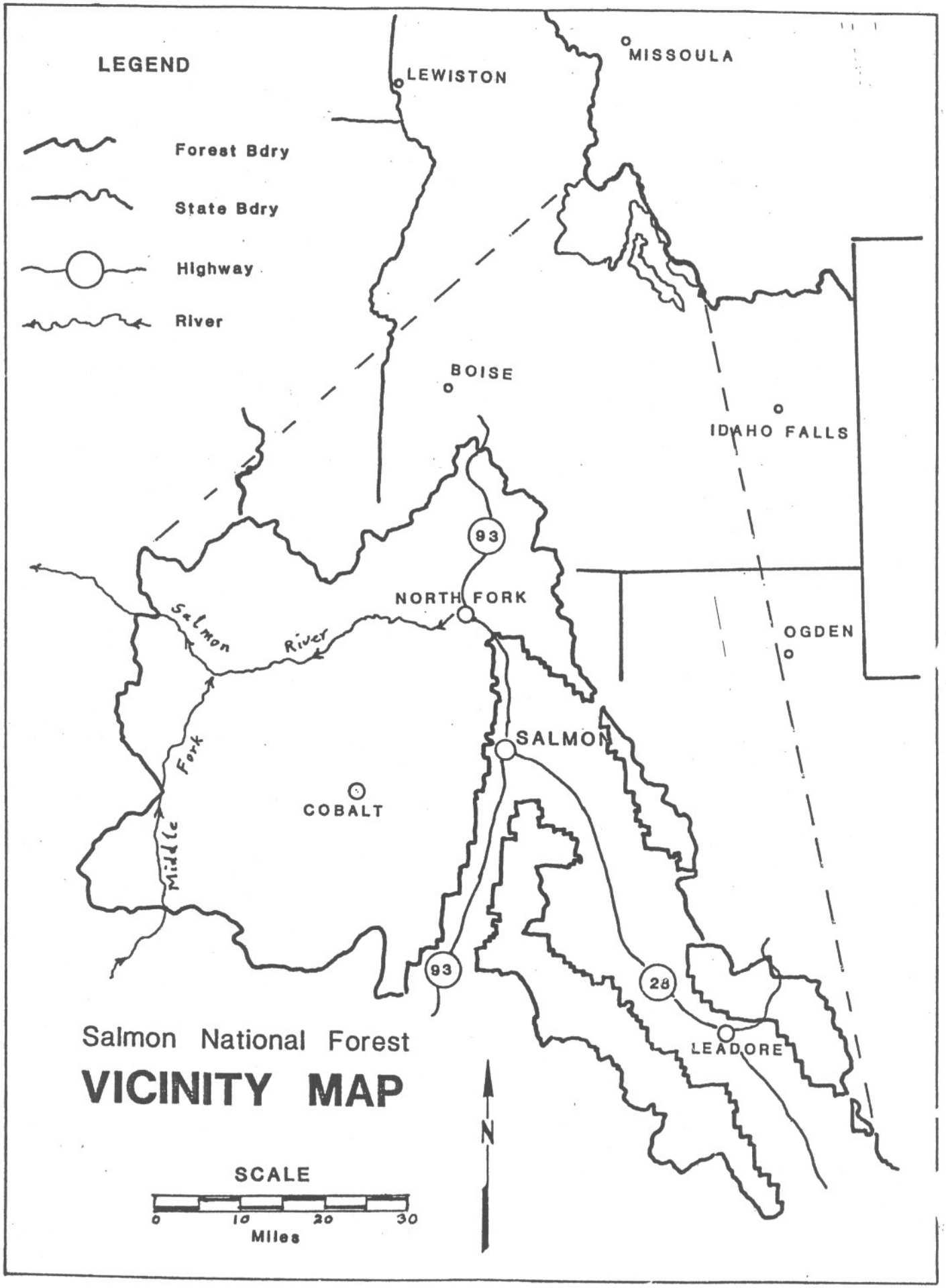
The chapter entitled "Forest Management Direction" deals with multiple use goals and objectives. It also lists the management practices and standards and guidelines for management of specific areas. The "Implementation of the Forest Plan" chapter deals with the means to implement the plan and evaluate and monitor the effects of management practices. All glossary and appendix references can be found in the separate Appendix document.

D. FOREST DESCRIPTION

The Salmon National Forest is located in east central Idaho. The gross area administered is 1,800,882 acres in three counties; Lemhi (92.7%), Idaho (3.9%), and Valley (3.4%). The net area is 1,776,994 acres.

The Forest Supervisor is headquartered in Salmon, Idaho. There are Ranger District offices in Salmon, North Fork, Leadore, and Cobalt. The Cobalt District is located in Salmon in the winter and Cobalt in the summer.

The Salmon National Forest encompasses lands in the Beaverhead Mountains of the Bitterroot range, the Lemhi Mountains, and the Salmon River Mountains. The Forest provides a wide range of resources and opportunities, including timber, range, wildlife, watershed, developed and dispersed recreation, minerals, and wilderness.



Salmon National Forest

VICINITY MAP

II. ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

A. INTRODUCTION

This chapter describes the present condition of each Forest resource. Future demand for Forest resources, the Forest's ability to supply that demand, and the expected future condition of the resources are summarized. Information in the chapter was drawn primarily from the Analysis of the Management Situation, approved on August 22, 1982.

Forest Setting

Zone of Influence - Local

The Salmon National Forest Local Zone of Influence covers Lemhi and Custer Counties in east central Idaho and Ravalli County in south western Montana. The residents and communities within this three county area are influenced and affected by Salmon National Forest policies and decisions. The area includes six small towns: Hamilton and Darby, Montana, in Ravalli County; Salmon and Leadore, Idaho, in Lemhi County; and, Challis and Mackay, Idaho, in Custer County. There are numerous small communities within the zone of influence.

B. MANAGEMENT SITUATION

Socio-Economic Situation

The Local Zone of Influence is basically a rural area. The population was essentially static from 1950 through 1970, but experienced a 45 percent increase between 1970 and 1980. This increase occurred principally in Ravalli County, 55.5 percent increase, while Custer and Lemhi Counties increased in population by 27.1 percent. Projected population growth in the Local Zone of Influence between 1980 and 2000 is expected to be about 29 percent.

The economy of the area is based primarily on farming and natural resource industries such as logging, lumber manufacturing, mining, and recreation. The trend since 1967 has been for a gradual decline in the importance of farming and mining related employment and corresponding increases in the importance of all other categories listed. Government is the single largest employment category within the Primary Zone of Influence and shows the greatest growth rate.

Details of population, economics, lifestyle, and community cohesion in the Local Zone of Influence are included in the Analysis of the Management Situation section of the EIS covering the Salmon National Forest Plan.

Table II-1 - Economic Indicators, Past Trends, and Baseline Projections for Zone Influence

		1960	1969	1970	1975	1976	1980	Projected 1990	2000
Population (M persons)		21.7		22.9			33.2	38.3	42.8
Per Capita $ Income	- Custer		2470		3909	4375			
	- Lemhi		2524		4109	4823			
	- Ravalli					4197			
Unemployment Rate	- Custer			5.0	7.6	7.0	4.4		
	- Lemhi			6.0	8.9	9.3	9.5		
	- Ravalli					10.5	(3 yr avg. 75-77)		

1. Zone of Influence - Regional

The Regional Zone of Influence is those areas not within the Forest Boundary or directly and significantly influenced by Salmon National Forest policies and decisions, but which are indirectly or lightly impacted by those policies and decisions. Because of the diversity of activities available on the Salmon National Forest and the unequal distribution of the resources that support these activities, the Regional Zone of Influence varies depending upon the resource involved.

The Regional impact of the Salmon National Forest grazing and mineral resources are minimal and the Regional Zone of Influence is essentially coincident with the Local Zone of Influence. The Regional Zone of Influence for timber extends to Missoula and Beaverhead Counties in Montana and Fremont and Madison Counties in Idaho due to small amounts of actual or potential processing of Salmon National Forest timber in these areas.

The Recreation Resource Zone of Influence covers all of southeast Idaho due to the outstanding quality and diverse nature of recreational opportunities on the Forest. Some aspects of the recreation resource have a Zone of Influence much larger than this. For example, because the steelhead run into this area provides a unique opportunity in the Northern Rocky Mountain area, the Regional Zone of Influence for fishing covers all of southern Idaho and southwestern Montana. The Regional Zone of Influence for river floating and wilderness use includes eastern Washington and Oregon, all of Idaho, western Montana, and northern and central Utah. On the other hand, the Regional Zone of Influence for skiing extends only slightly to the north beyond the Local Zone of Influence into Missoula County, Montana.

2. Zone of Influence - National

Many people know of, and are attracted to, the Salmon National Forest and nearby areas, because of the National reputation of the river floating, wilderness areas, and hunting and fishing activities along with the general scenic beauty of the area. About 10 percent of the recreational use of the Salmon National Forest is by people from outside the Regional Zone of Influence. Because of the presence of some strategic and valuable metals (i.e., cobalt, gold, etc.) along with, possibly, gas and oil, there is some National interest in these resources. There is no significant influence in the other resource areas.

Physical and Biological Setting

The Salmon National Forest manages lands located in east central Idaho. National Forest System lands are located in the Bitterroot Range of the Beaverhead Mountains, the Lemhi Range of the Salmon River Mountains, the main body of the Salmon River Mountains, and the Bitterroot Range of the Bitterroot Mountains north of the Salmon River. The Forest boundary includes 1,800,882 acres of which 1,776,994 acres are National Forest System land. The remaining lands include 23,118 acres of privately owned land and 770 acres of land owned by the State of Idaho.

The Salmon National Forest is headquartered in Salmon, Idaho, and is divided into four Ranger Districts.

D-1 Cobalt: Summer headquarters at the Cobalt Ranger Station approximately 20 airline miles southwest of Salmon, Idaho. Winter headquarters are in Salmon, Idaho. The Cobalt District administers the major part of the Salmon National Forest portion of the Salmon River Mountains. Gross area of the District is 627,555 acres.

D-2 North Fork: Headquartered at North Fork, Idaho, about 22 highway miles north of Salmon, Idaho, via U.S. Highway 93. The North Fork District administers the Bitterroot range of the Salmon River Mountains, the Salmon River Breaks along the north edge of the main body of the Salmon River Mountains, and the northern block of Salmon National Forest lands in the Bitterroot range of the Beaverhead Mountains. Gross area of the District is 598,904 acres.

D-4 Leadore: Headquartered at Leadore, Idaho, about 49 highway miles southeast of Salmon, Idaho, via State Highway 28. The Leadore District administers the middle and southern block of Salmon National Forest lands in the Bitterroot range of the Beaverhead Mountains and the southern three quarters of the Salmon National Forest portion of the Lemhi Range of the Salmon River Mountains. Gross area of the District is 317,913 acres.

D-5 Salmon: Headquartered in Salmon, Idaho. The Salmon District administers the northern one-quarter of the Salmon National Forest portion of the Lemhi Range of the Salmon River Mountains and the eastern part of the main body of the Salmon River Mountains. Gross area of the District is 256,510 acres.

Geology

The geology of the Salmon National Forest is extremely diverse and complex. The dominant rock type throughout the Forest is Precambrian sedimentary including quartzites and siltites of the Yellowjacket formations, Lemhi Group and Swager formations. Other rock types are important locally. Paleozoic and Mesozoic sedimentary rocks including quartzites, mudstones, sandstones, siltstones, dolomites, limestones, conglomerates, cherts, shales, and phosphatic shales are found in the Lemhi Range and the south end of the Beaverhead Mountains. Tertiary sedimentary rocks are found in minor lacustrive deposits in the Leesburg and Moose Creek Basins and in minor exposures of the Geertson formation in the Fourth of July Creek vicinity. Intrusive igneous rocks are also common in the west, northwest, and specific eastern portions of the Forest and include granite and quartz monzonites principally of the Idaho Batholith. Extrusive igneous rocks within the Forest include widespread andesite, dacite, ryolite, and basalt flows of the Challis volcanics. Late Tertiary ash deposits are found in the Leesburg Basin. Parts of the forest contain ash from Mt. Mazama (Crater Lake, Oregon) 6,500 years old.

The geologic structure of the Forest is also extremely complex. Major identified structural features include the Brushy Gulch, Shoup, Hot Springs, Big Deer Creek, Panther Creek, Iron Creek and Miner Lake faults; the Medicine Lodge Thrust Sheet, range front faults, and the Panther Creek Graben.

In addition to general erosion and stability problems, the Salmon National Forest has landslides widely distributed throughout the area. They are generally associated with Challis volcanics. Major active slide areas include Hayden Creek, Dump Creek, and Wagonhammer Springs. Seismicity had not been a hazard during the last 100 years until 1983 when a 7.1 Richter Scale earthquake with many follow-up tremors in the 4.0-5.0 range hit the area. The quake was centered near Mt. Borah in the Challis National Forest. Many prehistoric landslides indicate possible past seismic activity. Prior to this, there had been two deep seated seismic events of 5.0 or less intensity on the Richter Scale in recent years. General erosion and stability problems on the Forest are normally associated with granitic and volcanic based soils.

Flora

Considerable variation in floristic representation and plant communities exists on the Salmon National Forest. Much of this variation was influenced by migration of species from other vegetative regimes. Present day vegetation on the mountainous

portions of the Forest is strongly representative of boreal immigrants while the foothills and basins are characterized by drier more xerophytic vegetation.

At the lower elevations, steepness of slope and aspect has a strong influence on the vegetation. This is particularly evident on the north and west portions of the Forest, such as along the Salmon River below North Fork. Typical south exposures in these elevations are represented by bunchgrasses such as bluebunch wheatgrass and shrubs such as curleaf mountain mahogany, rabbitbrush, and big sagebrush. North aspects are normally timber covered by species such as ponderosa pine and Douglas-fir.

On the southern and eastern portions of the Forest, the lower elevation slopes are generally not as steep. Southern aspects support a typical sagebrush/grass community with big sagebrush and bluebunch wheatgrass being the dominant vegetation. North aspects frequently have a sparse overstory of Douglas-fir with a productive understory of Idaho fescue.

The break between typical lower elevation plant communities and plant communities dominated by coniferous Forest is not distinct. Although there is evidence of belts or vegetative zones, many intrusions in the form of extended stringers move upward or downward into the adjoining zone. For example, mountain big sagebrush may characterize the interval from the upper portions of the spruce-fir zone down to the lowest portions of the sagebrush-grass zone. Conversely, coniferous tree species such as Douglas-fir or lodgepole pine may intrude far into the sagebrush-grass zone along some canyons and streams, or on aspects with more conducive climatic and edaphic conditions.

On the Salmon National Forest, the spruce-fir zone is largely dominated by lodgepole pine. Douglas-fir is an important tree species on the lower portions of the zone; whereas the upper portions contain Engelmann spruce, subalpine fir, whitebark pine, and limber pine. Open parks and wet meadow areas are common throughout the spruce-fir zone. These are normally small, but provide important diversity and are considered key areas for not only wildlife, but also livestock grazing. Some plant species commonly observed in the meadows and parks include sedges, tuffed hairgrass, several species of bluegrass, and forbs such as American bistort, groundsel, fleabane, and geranium.

The alpine zone is encountered at about the 9,500 to 10,000 feet elevation levels. Alpine vegetation on the Salmon National Forest is similar in structure, form, and species composition to other alpine communities in the Rocky Mountain west.

There are 11 sensitive plants that occur on the Forest. They are: Agastache cusickii, Astragalus amblytropis, Astragalus amnisamissi, Astragalus aquilonius, Cymopterus douglasii, Hackelia davisii, Halimolobos perplexa var. lemhiensis, Papaver kluanensis, Penstemon

lemhiensis, Physaria didymocarpa var. lyrata, and Physaria geyeri var. purpurea.

Fauna

Attesting to the diversity and importance of the wildlife resource on the Salmon National Forest, 337 species of animals derive all or portions of their habitat needs from the Forest. This imposing total number of species is composed of 20 species of fish, 9 species of amphibians, 10 species of reptiles, 222 species of birds, and 75 species of mammals.

The Salmon River and its tributaries offer spawning and rearing habitat for an anadromous fisheries of National importance. Steelhead trout and chinook salmon spawn and grow to juveniles in the fresh waters on the Forest before migrating to the ocean where they grow to maturity.

The entire Forest contains stream and lake environments capable of supporting fish populations. In addition to the anadromous fish species, a number of resident species such as California golden, cutthroat, brook, and rainbow trout and whitefish contribute significantly to the fisheries resource.

Elk, mule deer, bighorn mountain sheep, mountain goats, and pronghorn antelope are important big game animals frequently observed. Other big game species occurring on the Forest are black bear, moose, mountain lion, and white tailed deer.

Major furbearing animals are coyote, bobcat, beaver, and pine marten. All of these provide trapping opportunities for local trappers.

Six species of resident upland game birds are found on the Forest. Blue grouse and sage grouse are the species most in demand by hunters. Ruffed grouse, Franklin's grouse, chukars, and Hungarian partridge are also found here, but receive much less hunting pressure. Mourning doves are present during the summer.

Waterfowl habitat is limited, being restricted to riparian zones along the Salmon River, ponds, and lakes scattered over the entire Forest. Canada geese, seven species of puddle ducks and one diving duck nest on the Forest.

The Salmon National Forest provides habitat for three endangered species - gray wolf, peregrine falcon, bald eagle, and one threatened species - grizzly bear.

Recent reports of gray wolves indicate limited activity in the upper Lemhi River drainage in areas of high big game density. Populations are at very low levels.

Peregrine falcons have nested on the Forest in the past, but no nesting has been recorded in recent years.

Bald eagles migrate into the area and winter on the Forest from November through May. Bald eagles are not known to nest on the Forest.

There have been no confirmed grizzly bear sightings in central Idaho in several years.

Climate

The climate on the Salmon National Forest has considerable variability as the Forest covers a wide range of elevations as well as a large spatial distribution over portions of central Idaho. Elevations range from over 11,300 feet in the peaks of the Lemhi Range to less than 2,800 feet along the Salmon River. This variability in elevation, along with the influence of local topography and aspect results in a wide variety of micro climates, ranging from alpine to desert environments.

Storm Patterns

The majority of the annual precipitation occurs during the late fall through early spring. While the predominant form of precipitation is snow, during the fall months, storms originating from warm moist air out of the Gulf of Mexico produce moderate intensity, long duration rain storms.

During the summer months, convective storms often develop along the mountains, resulting in high intensity, short duration rain storms. These storms are especially common along the river breaks area of the Forest.

Precipitation and Snowpack

On the Salmon National Forest, a wide variation in average annual precipitation exists. Elevation, topography, intervening mountain ranges, and resultant rain shadows all effect the distribution of precipitation.

Annual precipitation ranges from as low as 10 inches a year in the lower foothills (and less in the adjacent valley bottoms) to 25 to 30 inches along the ridges in the Leadore area, and as high as 50 inches in the upper headlands and peaks of the northern portion of the Forest. Snow (with total snowfall greater than 150 inches in some areas) is the predominant source of precipitation on the Forest.

Temperature

Elevational differences on the Salmon National Forest cause a wide variety of temperature ranges. Along the Salmon River at Shoup the average annual temperature is 47°F, while up river in Salmon, the average annual temperature is 44°F. Other average annual

temperatures include Leadore, 38° and Gibbonsville, 42°F. In the upper elevations of the Forest, such as along the Continental Divide, the average annual temperature is approximately 25°F.

Temperature extremes include lows of -20°F to -30°F at Salmon and -35°F to -45°F at Cobalt. Along the ridges, temperatures as low as -50°F to -60°F have been estimated.

High temperatures at the highest elevations are in the range of 70°F to 80°F. At Cobalt, maximum temperatures reach the mid 90's. Highest temperatures have been observed in the river breaks area along the Salmon River, where on south exposures, temperatures in excess of 110°F have been experienced.

Water and Watershed Resource

The watersheds on the Salmon National Forest contribute approximately 1,039,000 acre feet of water to the Pacific Northwest River Basin System. Virtually all of the Forest's watersheds are tributary to the Salmon River (with the exception of a small area near Gilmore Summit which is tributary to Birch Creek). Major drainages on the Forest include the entire Panther Creek watershed, the entire North Fork of the Salmon River, as well as nearly all the major tributaries of the Lemhi River. A major portion of the Middle Fork of the Salmon River watershed is located on the western portion of the Forest, as well as numerous drainages which are directly tributary to a nearly 125 mile reach of the Salmon River.

Within the Salmon National Forest, the rivers, streams, and lakes receive significant recreational use by float boating, kayaking, tubing, jet boating, and fishing enthusiasts. Other local uses of the waters produced on the Salmon National Forest include irrigation of lands in the Salmon River and the Lemhi River valleys, as well as the irrigation of private lands within the National Forest. Domestic water is supplied by a municipal watershed to the city of Salmon. Community watersheds also supply domestic water to the communities of Cobalt and Gibbonsville. Residents in other areas utilize springs and ground water fed by waters produced on National Forests.

Local on Forest uses include stock watering, drinking water at campgrounds, domestic use on adjoining private lands, small hydropower developments, domestic sources for Forest Service administrative sites, and recreational bathing at geothermal springs. Other uses include the maintenance of fisheries and riparian habitats.

Downstream uses include hydropower generation, fisheries, irrigation, industry, municipalities, and recreation.

Air

The air on the Salmon National Forest is basically clean and unpolluted. There are periods during the summer when smoke from large wildfires either on the Salmon National Forest or in the areas

to the west in Idaho, Oregon, or southeastern Washington cause a hazy condition. Slash burning activities on the Salmon National Forest may cause a similar, but much more localized condition during the fall months.

C. RESOURCE ELEMENTS

RECREATION

Existing Situation

The Salmon National Forest provides many recreational opportunities and has received moderate use. The relatively remote location in relation to major population centers has limited utilization of the recreation resources of the Forest. The Salmon National Forest's three attractions: Frank Church--River of No Return Wilderness; Middle Fork of the Salmon Wild and Scenic River; and, the Salmon Wild and Scenic River draw many visitors from across the nation in spite of the remoteness of the area. The area is also nationally known as a big game hunting area which draws many into the area. Recreational opportunities are highly diversified and include just about all forms of outdoor forest related recreation. About 80 percent of the recreation use occurring in Lemhi County occurs on the Salmon National Forest. Recreation use and capacity by ROS class is shown below. Suitable area is defined as areas less than 45 percent slope. In general the available recreation resource is under utilized on the Salmon National Forest.

TABLE II-2

Recreation Type	Inventoried ROS Class	Total Acres	Suitable Acres	1981 Use RVD's	Capacity RVD's
Developed	Roaded Natural	216	216	82,400	237,516
Dispersed	Roaded Natural	695,608	430,413	254,489	5,359,704
	Semi Primitive Motorized	319,506	182,351	18,106	221,457
	Semi Primitive Non Motorized	334,406	145,217	16,218	176,724
		1,349,736	758,197	371,213	5,995,401

Factors Effecting Recreation Management

1. The Salmon National Forest has moderate to very high potential for geothermal, phosphate, and locatable minerals development. One large scale development, such as the Noranda Blackbird Cobalt project would significantly increase the area population and the demand for recreation opportunities.

2. The use of the Frank Church--River of No Return Wilderness, Middle Fork of the Salmon Wild and Scenic River, and the Salmon Wild and Scenic River is expected to continue and increase regardless of economic trends, fuel costs, etc.

3. The economic trends and fuel costs will interact with the isolated location of the Forest to influence demand.

4. The Salmon National Forest has two areas suffering from resource degradation as a result of recreational use.

   Meadow Lake Campground is located in a fragile high alpine area. Use far exceeds designed capacity of the developed area and due to gentle terrain past efforts to control vehicular movement have been unsuccessful. Lakeshore erosion, compaction and vegetative damage is the result.

   The other area suffering degradation is the recreation segment of the Salmon Wild and Scenic River. This 46 mile stretch has one campground, three boating sites, two trailheads, and two picnic areas. Past heavy use is compounded by greatly improved steelhead runs in recent years which have accelerated substantially increased recreation use along the river. There are plans for additional improvement in anadromous fish returns. The existing sites are overcrowded. Litter and human waste is a severe problem and the vegetation and soil are being damaged.

5. Portions of the developed capacity are in the wrong place and receive minimal use. Due to reporting procedures a false picture of supply exceeding demand is presented Forest-wide. In actuality, the exact opposite is true in areas such as the Salmon Wild and Scenic River.

6. Currently funds for maintenance and rehabilitation of developed sites are inadequate to keep up with the rate of deterioration and capital investments in developed sites are being lost.

Other Sectors Providing or Influencing Recreation Opportunities

1. BLM - The Bureau of Land Management provides limited camping and picnicking facilities and fishing access at the lower elevations, primarily along the two major access highways in the area. These sites provide a longer season of use than most Forest Service sites and are available before and after most of the Forest is accessible. The BLM also effects recreation on the Forest through road maintenance on major access routes. The local BLM District Office does not anticipate any major changes in their recreation or road maintenance budgets in the near future.

2. Private - The private sector provides camping facilities at several locations, primarily along Highway 93. Most of the use of these facilities is attributable to through traffic and hunters or steelhead fishermen rather than serving as destination locations. Numerous outfitters and guides, both local and out of State, provide services in the area, mostly river or backcountry connected. Most utilize Forest Service administered lands and require specific facilities and

management from the Forest Service. A few lodges are in operation providing various mixes of activities as well as lodging, meals, etc.

Comparison of Supply and Demand

Tables II-2A and II-2B display current outputs, projected demand, and supply potentials for developed and dispersed recreation use.

TABLE II-2A DEVELOPED RECREATION
(Average annual units in thousands of RVD's)

	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
Current Direction Supply	266	280	322	335	339
Forest Plan Supply	275	358	384	398	413
RPA Target	95	100	120	140	160
Projected Demand	89	104	115	127	139

TABLE II-2B DISPERSED RECREATION
(includes wilderness RVD's; excludes wildlife and fish RVD's)
(Average annual units in thousands of RVD's)

	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
Current Direction Supply	7144	7997	8541	9119	9394
Forest Plan Supply	6873	7438	7855	8244	8486
RPA Target	345	380	410	440	470
Projected Demand	291	338	374	412	451

Cultural Resources

1. Existing Situation

a. The number of recorded sites is 407. Of those recorded, more than 50 percent are prehistoric open campsites. Between 10 percent and 20 percent of the prehistoric sites are rockshelters found primarily along the Middle Fork and Salmon Rivers. Other prehistoric sites are those with depressions, (possible village sites), pictographs and petroglyphs, and hunting blinds. Fewer historic sites than prehistoric sites have been recorded on the Salmon National Forest. Most of the historic sites found to date have been mining camps and prospector's cabins. Other historic site

types are ranches, Forest Service structures, and sawmills.

b. Because no systematic survey of Forest lands has been conducted, it is difficult to estimate the number of sites on National Forest System lands that have not yet been inventoried. If the number of sites presently recorded per acre is any indication of site density, however, there may be almost 33,000 sites not yet inventoried.

c. There are three sites listed on the National Register of Historic Places: these are Lemhi Pass, Leesburg, and the Shoup Rockshelters.

d. There have been 311 surveys conducted on the Forest. The total number of acres inventoried to date is approximately 18,742.

e. Copies of project reports and the site forms are housed at the Supervisor's Office and at the Regional Office.

2. Cultural History

Following is a very brief summary of the cultural history of the Salmon National Forest.

Indians lived in the mountains of central Idaho for at least 10,000 years before the coming of Euro-American populations. These Indians may have been the antecedents of the Shoshoni and of the Nez Perce Indians that occupied the area at Euro-American contact, or perhaps they were of an entirely different cultural affiliation.

Prehistoric peoples relied on hunting, gathering, and fishing for their subsistence. Winter villages, consisting of between 2 and 40 extended families, were located along major river valleys including the Middle Fork and the Salmon Rivers. The location of these villages corresponded with the winter range of big game animals and also with good fishing spots in the rivers. These villages were probably deserted in late spring or early summer for fields of camas and other important vegetable foods, and for big game ranges at higher elevations.

The Lewis and Clark expedition passed through the area that later became the Salmon National Forest in late summer of 1805. The group met and stayed with the Lemhi Indians for a few weeks while searching for a passable route to the west.

The expedition opened the way for traders and trappers in search of valuable furs. Trappers and traders of the early nineteenth century included Donald McKenzie, Michael Bourdon, Finian McDonald, Alexander Ross, Peter Skene Ogden, Thomas Fitzpatrick, Jim Bridger, W. A. Ferris, and Captain Benjamin Bonneville.

The first settlement of Euro-Americans that was established in the vicinity of Salmon was Fort Lemhi. In 1855, members of the Mormon Church came to the Lemhi Valley and began planting crops and building fortifications as the first steps toward establishing a mission to teach and convert the Indians of the area. Due to conflicts with the Indians, Fort Lemhi was abandoned three years later.

The Euro-American population exploded with the discovery of gold on Napias Creek in 1866 at what became known as Leesburg. Within just a few years, however, the miners, merchants, and other business owners had deserted "played out" Napias Creek, leaving less than 200 people there in 1879. Other large scale mineral exploration and extraction projects in the area were at Yellowjacket beginning in the late 1860's, at Gibbonsville beginning in 1877, and along Blackbird Creek after the turn of the century.

The town of Salmon was established with the discovery of gold at Leesburg. The place was a supply post for miners and has continued to serve as a supply town for outlying communities and individuals involved in mining, the timber industry, and ranching. Some of the communities serviced by Salmon were Leesburg, Summit City, Shoup, Ulysses, Gibbonsville, Yellowjacket, Forney, Gilmore, and Hahn.

The Salmon River Forest Reserve was established in 1906 and, together with additional property, became the Salmon National Forest in 1908. The earliest work force was small; thirteen employees, mostly guards and rangers, worked on the Forest Reserves in 1907. Various duties that early employees performed included agricultural survey for potential Forest homestead locations, fire control, and issuing permits for timber harvest and grazing. The Forest Service relied heavily on the Civilian Conservation Corps program of the 1930's for road and fire lookout construction and fire suppression. Since 1907, the number of Forest Service employees on the Salmon National Forest has been growing to accommodate Federal legislation and management directives designed to protect the environment and better manage the Forest's resources.

3. Present Management

The cultural resources program is guided by existing Forest Service policy and direction as well as other Federal laws and executive orders. Management direction is generally that no activity on any proposed project will take place without first having completed a cultural resource survey of the project area. All cultural surveys are completed by qualified personnel; reports of those surveys are reviewed by the Zone Archeologist in Boise. Consultation concerning site significance and impact mitigation or avoidance procedure is made with the Idaho State Historic Preservation Officer.

Professional staffing has, in the past, been limited to one or two temporary employees hired for the summer months. Additional work has been completed by qualified volunteers from universities and other agencies. Some surveys and excavations have been conducted under contract or by cooperative agreement by qualified university professors and students as part of larger research programs or archeological field schools.

Current compliance is generally good for major projects. Some small projects have not received the appropriate amount of attention due to the unavailability of qualified personnel. The initiation of the paraprofessional program will help eliminate this problem.

Protection of sites is generally limited to maintaining their confidentiality. The Forest Service can usually protect sites from specific project impacts through avoidance. Salvage excavations have been conducted at sites in a few high-use areas.

The interpretive public information program at present is limited. Some pictographs, the Lewis and Clark Trail, Shoup Rockshelters, Leesburg, Ulysses, Shoup, and the Sacajawea Memorial are marked by Forest Service signs.

4. Expected Future Condition

There are certain aspects of current direction that will be extremely difficult to meet. These include the complete Forest inventory by 1990 and the maintenance of significant prehistoric and historic properties.

Resource management conflicts involving cultural resources will probably increase if the projected program output goals outlined in the draft Regional plan for minerals, timber, recreation, wildlife habitat improvement, and soils are attained. At the current level of archeological effort (one or two seasonal archeologists employed for four months and limited paraprofessional assistance), it will be increasingly difficult to survey all potential conflict areas, i.e., project areas.

Vandalism and pot hunting (illegal excavation) will continue to endanger site integrity.

5. Demand for Interpretation and Scientific Research Use

Visitors to the Salmon National Forest are often interested to know both the Indian and Euro-American history of the area as shown by their visits to small museums such as the Lemhi County Museum in Salmon and the Custer Museum on the Challis National Forest in Custer. Interpretive pamphlets and more road signs would be appreciated by the public.

The academic archeological community has expressed interest in the cultural resources on the Forest on several occasions. The Forest lies in a strategic position in central Idaho for yielding answers to questions about the boundaries between major prehistoric cultural groups (Shoshoni and Nez Perce). Models predicting prehistoric and historic land use in central Idaho have been developed by university students who feel that portions of the Salmon National Forest could be archeologically surveyed to test the accuracy of the models.

6. Conclusions

a. Capability to Resolve Issues and Concerns

Implementation of the paraprofessional program continued use of temporary employees, and encouraging volunteer work by qualified individuals will allow the Forest to meet its responsibilities concerning project surveys. At the current level of effort, however, it will not allow the Forest to complete a cultural resource survey of the entire Forest by the 1990 target date.

Under the current program the Forest is not likely to be able to respond to the issues of long-term protection of significant historic structures through maintenance or restoration programs. It might help protect prehistoric and historic sites by posting signs explaining that pot hunting and vandalism are illegal.

b. Special Resource Problems and Opportunities

Because archeologists have expressed interest in the cultural resources on the Forest by serving as volunteers, attending field schools, and conducting important research, the Forest can expect their cooperation on future scientific research projects.

WILDERNESS

Existing Situation

The Salmon National Forest manages approximately 426,114 acres of the Frank Church--River of No Return Wilderness. The emphasis of wilderness management is to protect wilderness ecosystems while allowing limited human use. Management is directed by the recently completed Comprehensive Management Plan for the Frank Church--River of No Return Wilderness.

Local interest in the future management of currently roadless areas is very high. The Salmon National Forest is evaluating all remaining roadless areas in this planning process. Table II-3 lists the roadless areas being evaluated along with their size.

Table II-4 shows the inventoried ROS class acres and capacity of the Frank Church--River of No Return Wilderness.

TABLE II-3
Roadless Area

13901	Camas Creek	34,887
13902	Taylor Mountain	48,280
13903	Lemhi Range	153,498
13903a	Goldbug Ridge	11,514
13941	Blue Joint Mountain	490
13942	Anderson Mountain	18,120
13943	West Big Hole	81,068
13944	Goat Mountain	35,488
13945	Italian Peak	50,181
13946	Allan Mountain	50,981
13501	Napolean Ridge	50,183
13504	West Panther	36,064
13504a	South Panther	6,710
13505	McEleny	3,608
13506	Jureano	25,506
13507	Haystack Mountain	12,118
13508	Phelan	12,465
13509	Deep Creek	5,265
13509a	South Deep Creek	12,975
13510	Jesse Creek	16,161
13511	Perreau Creek	8,493
13512	Agency Creek	5,690
13513	Sal Mountain	15,826
13514	Little Horse	7,620
13515	Napias	9,271
13516	Oreana	7,406
13517	Musgrove	8,223
13518	Duck Peak	48,791
13520	Sheepeater	31,954
13521	Long Tom	21,633
Total Acres		830,469

TABLE II-4
Inventoried ROS Class

ROS Class	Total Acres	Suitable* Acres	PAOT Capacity	Season RVD Capacity
P	271,740	132,124	264	64,416
SPNM	128,313	61,582	493	120,292
SPM	8,714	4,182	33	8,052
RN	18,548	8,902	739	117,205
Total	427,315	206,790	1,529	309,965

* NOTE: The criterion for suitable acres was those areas of less than 45 percent slope.

Current Management

Current Direction

Direction contained in the comprehensive management plan for the Frank Church--River of No Return Wilderness provides for protection of the wilderness environment from man-related impacts. Specific direction is included for each of the many resources involved. Two exceptions to traditional wilderness direction are provided by the Central Idaho Wilderness Act, and they occur; on the Salmon River, where jetboat use is to continue, and in the area known as the Special Mining Management Zone, where the exploration for, and development of cobalt is a dominant use.

Included with the current direction are numerous requirements for specific inventories, studies, surveys, plans, trail maintenance, permit systems, wilderness ranger program, miscellaneous rehabilitation projects and monitoring requirements.

Overview of Current Program

The two Ranger Districts involved have significant differences in types of use, amount of use, and management intensity, therefore each will be discussed separately.

North Fork Ranger District

The primary emphasis of the District program is administration of the wild segment of the Salmon Wild and Scenic River. The District administers all use within the designated corridor from Corn Creek down river to Salmon Falls. River-related use accounts for the majority of total use within the District's portion of the wilderness. This use includes summer floatboating, fishing, and jetboating as well as fall fishing and hunting. A large percentage of the use is served by commercial outfitters and guides. The most significant potential for major increases in use is related to anadromous fish. Efforts are underway by many State and Federal agencies to restore runs of steelhead and salmon. Should either species approach historic levels, there would be a corresponding increase in fishing use. Significant increases in use are not anticipated outside the river corridor due to the nature of the country, limits on potential big game numbers, and the lack of special attractions.

Presently, the North Fork District's program consists of:

- Administration of the Salmon Wild and Scenic River.
- Administration of all commercial outfitting.
- Public contact stations at Corn Creek and Lantz Bar (both on the Salmon River).
- Pack out program for unburnable solid wastes.

- Maintain priority trails to their assigned standard.

- Maintain remaining trails to Level I.

- Encourage dispersed use and minimum impact camping through distribution of handout material and contacts with outfitters.

- Annual visitor use survey.

- Cleanup of old dump sites.

Cobalt Ranger District

Unlike the North Fork District, the Cobalt's portion of the Wilderness receives its use equally distributed throughout the season. This area includes the Bighorn Crags, which receives the highest use of the Salmon portion of the Wilderness.

Presently, the Cobalt District's program consists of:

- Annual visitor use survey.

- Pack out program for unburnable solid wastes.

- Management program utilizing one or two wilderness guards and several volunteers.

- Encourage dispersed use and minimum impact camping through the use of handout material.

- Administration of all commercial outfitting.

- Control group size as much as possible.

- Regulate grazing in critical areas.

- Maintain priority trails to their assigned standard.

- Maintain remaining trails to Level I.

- Manage the Special Mining Management Zone in accordance with the provisions of the Central Idaho Wilderness Act.

- Prohibit all dredge and placer mining in the Middle Fork Drainage.

- Continue to allow use of Bernard Airfield.

- Continue grazing and outfitting where it is compatible with the wilderness environment.

Future Condition

Based on current and projected use, the overall quality of the Wilderness environment should remain quite high.

The most serious problem effecting both Districts is access and trail maintenance. As more trails deteriorate below acceptable levels, use will continue to become concentrated in localized areas rather than dispersed. At present, overuse is limited to a very few, very specific locations and generally could be eliminated by redistribution of visitors. An exception to what could be accomplished through redistribution occurs at the "main route" lakes where use will most likely continue to exceed capacity barring implementation of use restrictions.

Comparison of Supply and Demand

Wilderness use and capacity is included under dispersed recreation (see Table II-2B).

WILDLIFE AND FISH

The entire Salmon National Forest contains many diverse habitat types capable of supporting wildlife and fish populations. A total of 337 vertebrate species are found on the Forest at some time of the year. The fishery component includes 3 migrant species which annually return to Forest habitats to complete one or more life processes, and 18 resident species which remain in Forest environments during their entire life cycle. The wildlife component includes mammals, birds, reptiles, and amphibians. Of these, 156 species reside on the Forest year-long, 89 species are present during the nesting season only, 57 migrate across the Forest, and 11 spend the winter months. Habitat diversity is a critical element necessary for maintenance of the wildlife and fish populations on the Forest.

The Salmon National Forest provides habitat for numerous wildlife and fish species which contribute to, and are associated with, Indian treaty rights both on and off the Forest. These treaty rights include ceremonial, subsistence, and commercial uses. A focal point of treaty rights are anadromous fish and their associated habitats. The Columbia River Intertribal Fish Commission serves as the representative for the four Indian tribes that constitute the Confederated Tribes. These tribes which all have treaty rights to anadromous fish harvest in the Columbia River System downstream of the Forest include the Umatilla Indian Reservation, the tribes and bands of the Yakima Indian Nation, the Warm Springs Reservation, and the Nez Perce tribe. The Shoshone-Bannock and Nez Perce tribes of southeastern Idaho also have treaty rights applicable to utilization of resources on the Forest.

A key component of the treaties was a declared right to take fish that pass their usual and accustomed places. Recent court interpretations for the treaty rights have provided a quantification

of these rights. Other legal interpretations have been associated with habitat and habitat influencing activities. Treaty rights also grant use of Forest resources for subsistence purposes, such as hunting and fishing within historic tribal use areas.

The Salmon National Forest has 26 streams which currently provide habitat for anadromous species. Habitat condition in these streams is generally good. Some habitats have been influenced by past land management and enchancement activities have been employed to mitigate for disturbances. Existing habitat capability has been estimated to be approximately 93 percent of potential. In most cases, these habitats are underseeded and are producing far below current habitat capability. Correction of off-forest factors influencing anadromous survival are expected to occur in the near future. Hatchery production will assist in re-establishing populations in some streams. An additional 9 streams, which historically produced anadromous fish, are being influenced by mining related pollution. All of these streams have the potential to contribute substantially to anadromous production when the pollution problems have been resolved.

All of the anadromous habitats have the potential to contribute to treaty obligations and, therefore, forest management will be sensitive to habitat condition and capability. The Salmon National Forest is committed to maintaining high water quality and high production potentials in the anadromous drainages. The Forest is also committed to the resolution of the mine pollution problem in the Panther Creek drainage and will be working with the involved parties to bring about the needed land reclamation and pollution abatement.

The following representative habitats were selected as being indicative of specific biotic communities on the Forest:

Aquatic
Riparian - willow
Sagebrush
Quaking Aspen
Mature and old growth Douglas-fir
Old growth ponderosa pine
Mature and old growth subalpine fir
Mature lodgepole pine

On the Salmon National Forest, the most homogenous timbered habitats are Douglas-fir and lodgepole pine. In these areas, horizontal diversity can be improved markedly by either timber harvesting or fire. Large expanses of dense sagebrush also provide opportunities to increase horizontal diversity. In ponderosa pine and subalpine fir, there is already considerable vertical diversity and opportunities to improve diversity are limited.

In order to assess the influence of Forest management on habitat and species diversity and individual species well being, management indicator species have been selected. These indicator species represent organisms for which population levels and habitat

objectives can be established and which represent a number of species in estimating effects and influences from management alternatives.

HABITAT REQUIREMENTS/RELATIONSHIPS

Aquatic Habitat Management Indicator - At a minimum all existing acres of inventoried aquatic habitat would be required to meet all management levels including minimum viable population direction. It is anticipated that changes in species numbers might occur between the management levels but that reductions in distribution would not.

Anadromous Species Habitats

Qualitative components related to spawning habitat, specifically sediment levels in the spawning gravels, provide an assessment on the desired future condition of anadromous species habitat on the Forest.

Standards relative to spawning gravel conditions associated with various anadromous population levels:

Population Level	Amount of Fine Sediment*	Sediment Yield From Drainage
Viable and/or existing	≥25% sediment 6.3 mm in spawning gravels 28.1% embeddedness	≤54% yield over natural
State goals and/or potential	≥20% sediment 6.3 mm in spawning gravels 25.5% embeddedness	≤25% yield over natural

*Reiser and Bjornn, 1979

The anadromous fish habitat situation on the Salmon National Forest follows:

Anadromous Species Habitat

	Acres of Habitat	Remarks
Viable and/or existing populations	310	Include salmon-steelhead habitat. Some acres have been influenced by man caused in addition to natural events. Habitat improvement is needed to achieve potential.
State goals and/or potential populations	426	Include salmon-steelhead habitat; includes habitat improvement needed to bring 310 acres to maximum potential; also includes 116 acres of potential unused habitat brought back into production.

Habitat quality and quantity variables will be the primary units for tracking the desired future condition for these fish. Off Forest influences on anadromous fish populations make it impractical to emphasize actual population levels using Forest habitats. Potential populations or use levels can be derived from habitat capability relationships.

Resident Species Habitats

A majority of perennial streams on the Forest support populations of resident trout and other fish species. In general, resident fish habitats are characterized by moderate to high channel gradients, boulder rubble substrates, plunge pools and narrow channels. The most productive resident trout streams have sections characterized by lower gradients, better pool habitat and abundant streamside vegetation. These streams and stream sections are also the most likely to be adversely impacted by land management activities. In addition to stream habitats, numerous lakes on the Forest are managed for trout fishing. Most of these waters are located at high elevations in basins formed by glacial activity. The majority of lakes are within the Wilderness.

Standards relative to spawning gravel conditions associated with various resident trout population levels:

Population Level	Amount of Fine Sediment	Sediment Yield From Drainage
Resident		
Minimum Level	approximately 37.1% sediment; 37.2% embeddedness	155% yield over natural

State goals	approximately 28.7% sediment; 30.5% embeddedness	85% yield over natural
Maximum potential	approximately 18.5% sediment; 23.23% embeddedness	0% yield over natural

Certain species of aquatic macroinvertebrates reflect changes in water quality and habitat condition (sedimentation). The primary use of this indicator group will be site specific and related to certain specific projects or management activity.

Terrestrial Habitat Management Indicator Species - The habitat capability was inventoried for the four big game MIS, and stratified at three levels: (1) optimum - Areas that represent the most ideal habitat and will support a significantly higher density of animals than the surrounding habitat; (2) acceptable - areas that represent average habitat and will support animal densities proportionate to the total habitat; and, (3) marginal - areas that represent poorest habitat and will support a significantly lower density of animals than the surrounding habitat.

Results of the inventory are shown in Table II-5, along with the number of animals assigned to each capability class.

TABLE II-5
Big Game Summer Range Population Levels (1982)

	Habitat Capability Class			
	Optimum	Acceptable	Marginal	Total
Elk				
M acres of habitat	355 (20%)	995 (56%)	427 (24%)	1,777
Animal numbers	2,710 (61%)	1,555 (35%)	170 (4%)	4,435
Mule Deer				
M acres of habitat	515 (29%)	889 (50%)	373 (21%)	1,777
Animal numbers	9,744 (53%)	8,220 (44%)	595 (3%)	18,559
Mountain Goat				
M acres of habitat	10 (3%)	248 (81%)	49 (16%)	307
Animal Numbers	32 (10%)	272 (87%)	8 (3%)	312
Bighorn Sheep				
M acres of habitat (occupied)	270 (30%)	108 (12%)	109 (12%)	487
Animal numbers	842 (82%)	169 (16%)	17 (2%)	1,028
M acres of habitat (unoccupied)	249 (28%)	135 (15%)	32 (3%)	416

Table II-5 indicates a disproportionately high percentage of animal use is occurring on the optimum lands when compared to the amount of land available.

With the exception of mule deer, management activities permitted in optimum areas will cause serious declines in animal use. Opportunities to improve these habitats are very limited.

Mule deer optimum range, where it does not overlap optimum range of the other three species, will provide opportunity for habitat improvement. This can be accomplished mainly by providing forage where it is a limiting factor.

Mule deer optimum range overlaps elk acceptable range in many areas. These include heavily timbered Douglas-fir and lodgepole pine habitats which can be improved with timber harvesting. These lands will be needed to provide forage to maintain big game populations at the potential level. There are very few opportunities to increase the carrying capacity of marginal ranges.

The available summer range on the Salmon National Forest and surrounding lands is capable of providing habitat for all of the big game species up to the potential level with only minimal habitat improvement, some livestock adjustment and road closures. Winter range will be the major limiting factor to overcome in reaching this level. Big game winter range is summarized in Table II-6.

TABLE II-6

Big Game Winter Range (M Acres)*

	Elk	Mule Deer	Bighorn Sheep	Mountain Goats	Total
Key Winter Range	97	112	43	35	121
Normal Winter Range	194	213	70	62	246
Total Winter Range	291	325	113	97	367
BLM					262
State					32
Private					181

*Figures do not total horizontally because of overlap between species.

Description and maps of the MIS range are found in the appendix to the AMS for the EIS on the Forest Plan.

Table II-7 lists population in number of animals and habitat requirements, in acres, for minimum viable, existing, Forest Service objectives and potential levels of management for all Management Indicator Species. Explanation and definitions for the levels follow the table.

TABLE II-7

MIS Population Levels and Habitat Required at Four Management Levels

Management Indicator Species	Minimum Viable Population	Existing	Forest Service Objective	Potential
Elk	1,500 (1,060,000A)	5,500 (1,767,000A)	7,365 (1,767,000A)	10,300 (1,767,000A)
Mule Deer	5,000 (1,000,000A)	21,700 (1,767,000A)	18,559 (1,767,000A)	41,400 (1,767,000A)
Bighorn Sheep	325 (250,000A)	1,000 (487,000A)	2,000 (903,000A)	4,000 (903,000A)
Mountain Goat	300 (307,000A)	300 (307,000A)	600 (307,000A)	700 (307,000A)
Pine Marten	200 (100,000A)	600 (192,000A)	**	1,090 (360,000A)
Pileated Woodpecker	46 (37,000)	172 (140,000A)	**	456 (370,000A)
Vesper Sparrow	1,600 (40,000A)	3,800 (190,000A)	**	4,000 (200,000A)
Yellow Warbler	2,000 (8,700A)	10,000 (43,000A)	**	10,800 (47,000)
Ruby-crowned Kinglet	26,000 (37,000A)	150,000 (215,000A)	**	260,000 (370,000A)
Goshawk	50 (138,000)	72 (190,000A)	**	150 (420,000A)
Great Grey Owl	30 (50,000A)	60 (100,000A)	**	244 (400,000A)
Yellow-bellied Sapsucker	480 (2,400A)	480 (2,400A)	**	600 (3,000A)
Pygmy Nuthatch	3,800 (3,800A)	9,000 (9,000A)	**	38,000 (38,000A)
Brown Creeper	1,800 (18,000A)	9,000 (90,000A)	**	35,000 (360,000A)
Mountain Bluebird	2,000 (40,000A)	10,000 (200,000A)	**	15,000 (300,000A)

** Population goals not established for these species.

TABLE II-7 (cont.)

Threatened & Endangered Species	Minimum Viable Population	Existing	Forest Service Objective	Potential
Bald Eagle	4 (16,000A)	0 (16,000A)	4 (16,000A)	6 (25,000A)
Peregrine Falcon	6 (150,000A)	0 (150,000A)	6 (150,000A)	10 (250,000A)
Grey Wolf	10 (100,000A)	5 (100,000A)	10 (100,000A)	20 (200,00A)
*Grizzly Bear	(40,000A)	(40,000A)	(215,000A)	(430,000A)

*Grizzly Bear Recovery Plan does not involve recovery efforts on the Salmon National Forest, therefore, target numbers are not included.

Definition of minimum Viable, Existing, State Objective and Potential Levels of Management Indicator Species

Minimum Legal Viable Population Level

Big Game - These levels are considered to be minimum numbers that the population could be reduced to yet still not permanently alter the distribution pattern or gene pool. With the exception of mountain goats, this level ranges from approximately 1/4 to 1/3 of the existing level. Mountain goat populations are at approximately this level now.

T&E Species - These are theoretical minimum levels needed to bolster existing populations to a level where they could be self sustaining on the Forest. The existing situation for all species is below MVP levels.

Other Species - Population levels were judged to be met by maintenance of minimum levels of major critical habitat, i.e., old growth timber, quaking aspen, sagebrush and riparian zones, as well as minimum snag levels.

Existing Population Level

Big Game - Existing population levels are sustained by available forage from National Forest and BLM winter range, and from National Forest summer range (both Salmon National Forest and adjacent National Forests). This includes existing levels of wildlife and livestock competition, and existing levels of open roads.

T&E Species - The existing levels are estimates of numbers felt to be occupying the Forest. This is considered to be below MVP for all species.

Other Species - Existing levels are estimates of animals actually present on the Salmon National Forest, based on local data where available, or the most reliable research from similar areas.

Objective Level

Big Game - Objective population levels are from IDF&G's Species Management Plans for Elk and Mule Deer (1986-90) and for Bighorn Sheep and Mountain Goats (in press). This level is sustained by available forage from National Forest and BLM winter range, and from National Forest summer range (both Salmon National Forest and adjacent National Forests). Some additional forage will be provided as a result of improved grazing practices. Additional road closures will also be needed.

T&E Species - Except for grizzly bear, the objective level is synonymous with MVP. Population increases will largely result from introductions, and is also the level that the Forest could contribute as their share of the total recovery effort.

Other Species - Objective levels are not expressed as a population number, and are assumed to be met by objective level acres of each vegetative type and successional stages on National Forest lands.

Potential Level

Big Game - This level is the theoretical maximum carrying capacity of winter and summer range complexes on the Salmon National Forest, adjacent BLM lands and adjacent Montana Forests. It excludes livestock grazing on all lands where livestock/wildlife conflicts currently exist. It assumes a high level of habitat improvement, especially on winter range, and large acreages maintained with road closures.

T&E Species - These are theoretical maximum population levels that the Forest is capable of supporting based on available habitat and food supply. No habitat improvement is needed. Population increases will largely result from introductions.

Other Species - Potential population levels are expressed as a population number, and are assumed to be met by optimum of plant successional stages within each vegetation type, including old growth timber.

HABITAT ENHANCEMENT

Considerable opportunity exists for bringing existing habitat conditions to levels approaching optimum. This improvement can be accomplished through better coordination of land management activities and direct habitat improvement projects as listed in Table II-8.

TABLE II-8
Habitat Improvement Needs

	State Objectives	Potential
Elk Mule Deer	Road Closures	Road Closures Increase forage supply (burning, fencing, browse manipulation). Eliminate livestock competition.
Bighorn Sheep Mountain Goats	Road Closures Reintroductions	Road closures Reintroductions Increase forage supply (burning, browse manipulation, etc.)
Pine Marten Pileated Woodpecker Ruby-crowned Kinglet Goshawk Great Grey Owl	-	Maintain adequate mature and old growth timber.
Pygmy Nuthatch	-	Maintain adequate mature and old growth timber. Nest boxes.
Mountain Bluebird	-	Increase snags. Nest boxes.
Vesper Sparrow	-	Maintain adequate sagebrush.
Yellow Warbler	-	Improve livestock management in riparian zones.
Yellow-bellied Sapsucker	-	Prescribed burning to increase quaking aspen. Nest boxes.
Steelhead Salmon	Use all natural habitats	Barrier removal, rearing habitat improvement, improve riparian management, artificial spawning beds, improved water quality.
Resident Trout	-	Slash/debris removal, streambank stability, increased cover, improved riparian management, improved spawning, improved water quality.

No habitat improvement work is needed to maintain populations at either MVP or existing levels, except for the Yellow-bellied Sapsucker which will require the treatments identified for the potential level. No improvement work is needed or feasible for T&E species at any management level. Reintroductions of each species will be required to fill all of the habitat voids. Use of land and water conservation funds to secure specific parcels of land could be beneficial to both fish and wildlife.

WILDLIFE AND FISH SUPPLY AND DEMAND

Anadromous Fish - Negative influences on anadromous species resulting from construction of dams in the Columbia and Snake Rivers, and overharvest has created a situation where demand for recreation and commercial use far exceeds present supply. Restrictive seasons and bag limits have been instituted to provide a degree of resource protection while providing for recreational use.

Recreation fishing for chinook salmon has been tightly controlled because of the very reduced number of returning adults.

For the most part, recreational use of the salmon resource has been unavailable. Future demands for recreational use of a salmon fishery will continue to exceed supply, even though supplies will be increased through development of a salmon hatchery in the upper Salmon River drainage.

Recreational use demands for steelhead trout continues to exceed supply, even though hatchery management efforts have generated a greater supply. Continuation of these hatchery efforts is expected to double the presently available supply. It is highly unlikely that supply will meet or exceed demand through the planning horizon.

Resident Trout - In general, supply exceeds demand for trout fishing on much of the Forest. There are areas, however, where more restrictive harvest regulations have been enforced to protect specific populations. There also are streams and/or stream sections where demand exceeds the stream capability and supplemented stocking with catchable fish has to be instituted.

The general objective for trout is to increase the allowable harvest and meet demand at improved catch rates. Objectives for anadromous species are to rebuild run levels to 1960 level.

Projected Consumptive Use Demand for Recreation Fishing

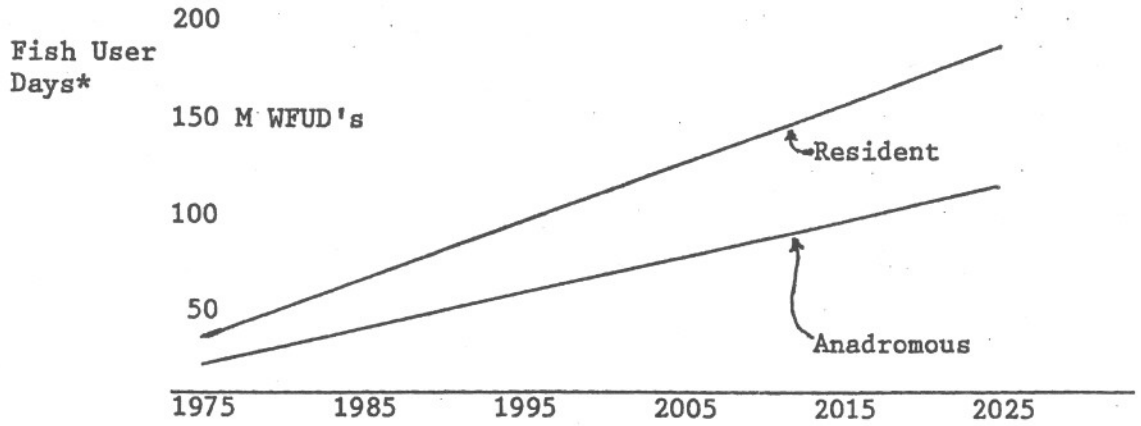
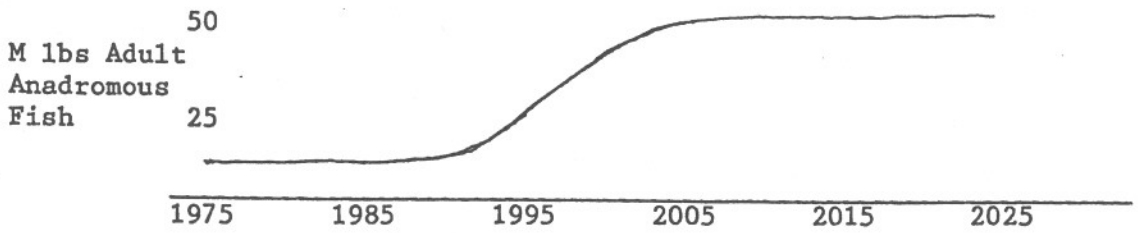


Figure 2



*WFUD's may be expressed as RVD under recreation.

Big Game - Over the past 10-20 years, demand for big game animals (all species) has exceeded the supply. This trend is expected to continue at all management levels. In 1976, Idaho Department of Fish and Game restricted seasons and bag limits on elk and mule deer in order to increase numbers. This effectively curtailed elk harvest but had little effect on the mule deer harvest. Demand (as evidenced by hunter use) dropped slightly, but should increase as regulations are liberalized.

Other Game - Supply of upland game, waterfowl and furbearers exceeds demand over the entire Forest and is expected to do so far into the future. Demand will increase slowly.

Non-Consumptive Wildlife Use - This form of wildlife use is increasing slowly. Greatest demand is watching big game in the winter and spring along the Salmon River Road. No use conflicts have been noted or are expected to occur.

Research Needs

Research on browse regeneration techniques is needed to facilitate restoration of depleted big game winter ranges. Research is needed on the impacts of timber harvest activities on goat habitats and population.

Additional research is needed on sediment response relationships with resident trout. We also need increased information on aquatic habitat fish population relationships.

RANGE

Current Range Resource (Supply)

1. The current inventory of the range resource is summarized in Table II-9. Data are from FS-RAMIS.

2. Conflicts between range use and other resources have been identified on 32,320 acres. Table II-9A summarizes those conflicts by type of conflict and allotment.

3. Table II-10 identifies acres by vegetation type of rangeland in less than satisfactory condition.

TABLE II-9

Summary of Range Ecosystem Data
Salmon National Forest

	Range Suitable for Livestock Grazing (M Acres)	
Range	188.2	
Forage Condition		
Excellent	20.0	
Good	70.6	
Fair	68.1	
Poor	21.9	
Ecological Trends (Apparent)		
Up	15.4	
Not Apparent	117.9	
Down	47.4	
Vegetation Type		
Grasslands	19.5	
Dry Meadow	3.4	
Wet Meadow	2.4	
Perennial Forbs	4.9	
Sagebrush	80.5	
Browse-Shrub	2.9	
Coniferous Timber (Grazable)	64.8	
Aspen	2.2	
Barren		
Coniferous Timber (Not Grazable)		
Grazing Capacity		
Current (MAUM's)	57.4	
Potential (MAUM's)	72.9	
(MAUM's) 1/ Permitted AUM's (Total)		54.1
Cattle (MAUM's)	50.4	
Sheep (MAUM's)	2.7	
Domestic Horses (MAUM's)	1.0	
Recreation Stock (MAUM's)		

1/ Average Last Five Years

TABLE II-9A

Allotment 1/	Conflict Category 2/									
	1-A	1-B	2-A	2-B	2-C	3	4	5	6	Total
Camas Creek	974 3/		28							1,002
Forney	317									317
Morgan Creek	172			65	197					434
Little Eightmile					678					678
Hawley Creek	485	569	1799		2992	552				6,397
Grizzly Hill	179	505	375				2051			3,110
Tex Creek		65								65
Nez Perce		152								152
Bear Valley	29									29
Upper Hayden	392	736	341		1598	655				3,722
South Hayden	125	218	468							811
Lee Creek	187	303	257		566					1,313
Deer Park	62				1452					1,514
Pattee Creek	37	197				880				1,114
Agency Creek		90			424					519
Timber Cr. S&G	96									96
Timber Cr. C&H	278	104			518					900
Cove Creek		100								100
Swan Basin	338	503							996	1,837
Diamond-Moose	205	111		91	145	175				727
Williams-Napias		190		122	2346	124	624			3,406
Haynes Creek		349				23				372
Withington Cr.						75				75
Twelvemile	74				341					415
S.F. Williams Cr.		95			175					270
Lake Creek					42					42
Deer-Iron Creek		125			461					586
North Basin	240		315		1799					2,354
Baldy Mountain	2	89			537					628
Hat Creek	66	413			6					486
Total	3284	4743	3583	278	14,277	2484	2675		996	32,320

1/ Only those allotments with identified conflicts are listed.

2/ Categories of conflict areas.

1. Rangeland Riparian Areas
   a. Major fisheries
   b. Areas important to songbirds, game birds, and small animals.
2. Summer Range - Big game/livestock
   a. Calving areas
   b. Wet meadows and wallow complexes
   c. Key forage areas
3. Winter Range - Big game/livestock
4. Vegetation manipulation (refers primarily to treatment and management of big sagebrush).
5. Disease transmittal (refers primarily to the potential for stress induced diseases associated with the reintroduction of domestic sheep into currently occupied bighorn sheep range).
6. Game bird conflicts

3/ Refers to acres of conflict.

TABLE II-10
Acres of Range in Less Than Satisfactory Condition

Vegetation Type	Acres Suitable for Grazing
Grasslands	2.3
Dry Meadow	0.2
Wet Meadow	
Perennial Forbs	0.9
Sagebrush	17.4
Browse-Shrub	0.1
Coniferous Timber	0.9
Aspen	0.1
Total	21.9

Of the 21,900 acres in less than satisfactory condition, an estimated 40 percent could be improved through better management or some type of vegetative treatment. Approximately 30 percent of these acres could be improved through cultural treatment. The remainder would improve slowly through implementation of better management systems and better administration of existing management plans.

Current Management Direction

The current direction for the Salmon relates to meeting National and Regional goals and emphasis items. Forest program direction will emphasize balancing range livestock use and ecosystem stability in a cost effective manner while insuring minimal social and economic impact on dependent communities. Coordination with other resources and riparian management are also major emphasis areas.

Where feasible, allotment management planning will be integrated closely into coordinated resource planning with BLM, State, and privately owned rangelands.

1. Impacts of Changing Grazing Levels

There are currently 85 livestock permittees on the Salmon Forest. If permitted AUM's were reduced by 36 percent, an estimated 5 percent of the livestock operations would become uneconomical on the Salmon. In addition, about 20 percent would be severely impacted economically. With total exclusion of Forest Service grazing, approximately 46 percent of the operations with permits would become uneconomical, with an additional 40 percent becoming severely impacted.

2. Plant and Animal Diversity, T&E Animals and Plants are discussed in the wildlife section.

Expected Future Condition of Resource Under Current Management

Current direction is to have all grazing allotments under improved management. Therefore, conditions can be expected to improve overall with implementation of improved allotment plans.

Table II-10A shows the estimated grazing capacities under current management and under various levels of management.

TABLE II-10A*

	Current Management	Level A No Livestock	Level B Some livestock	Level C Extensive Mgt.	Level D Intensive Mgt.	Level E Max. Livestock
Permitted AUM's	54,100	0	41,261	55,064	58,112	72,900
Elk Numbers	1,720	3,118	1,740	1,755	1,786	876
Deer Numbers	5,574	8,210	5,851	5,586	5,794	3,705

* Elk and deer numbers depicted in Table II-10A are those occurring only on suitable range, whereas Section C, Wildlife Table II-5 depicts elk and deer numbers for the entire Forest.

Demand Analysis

Following shows the information on the demand curve for each of the outputs.

TABLE II-11
Demand Curve Characteristics by Major Output

Output	Units	Slope of Demand Curve	Quantity Where Price = 0	Basis of Determining When Price = 0	Probable Shift in Demand to 2030
Range					
Permitted Use in all classes of Domestic livestock.	AUM's	Horizontal	Not possible to determine, price is set by formulas, not in the marketplace.	Constrained by available supply before reaching 0.	Nationwide 46% increase in forage demand by 2030. Locally constrained by large federal land ownership preventing increase in base property.

The term range as used in this demand analysis refers to the production of forage for domestic livestock. In addition, there is a substantial demand over and above the production of forage for domestic livestock for wildlife. It is estimated that domestic livestock and wildlife together will require approximately 88,900 AUM's of forage annually. The range output is not sold in a market, it is sold to a qualified permittee with sufficient base property for the off-Forest maintenance of the livestock herd. The price of the range output, or the grazing fee paid by the permittee to the Forest Service, is calculated from a formula established in the Public Rangelands Improvement Act of 1978.

Eighty-nine percent of the permittees on the Salmon National Forest reside and maintain their base property in Lemhi County, Idaho. Within Lemhi County 92 percent of the land is federally owned, leaving little opportunity to expand base property and grazing demand on the Salmon National Forest. Although there are opportunities to increase grazing capacity on private ranch lands through more intensive management and investment in improvements, these opportunities are limited. Likewise, there are some opportunities to increase grazing capacities on national forest lands through improved grazing management systems and range improvement projects; however, these opportunities are also limited.

See Tables II-12 and II-13 for historic and projected consumption of the range output.

TABLE II-12

Salmon National Forest
Historic Consumption by Output

Outputs	Units	Other Years	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Range																	
Projected demand, all grazing animals	AUM's																88,902
Permitted use, cattle & horses	AUM's	1959-58,439			51,282	50,271			49,263				48,273				48,910
sheep	AUM's	1959- 4,268			4,951	3,726			4,354				1,143				1,824

TABLE II-13

Projected Consumption by Output
Salmon National Forest

Outputs	Units	1982	1983	1984	1985	1986-90	1991-2000	Annual Averages 2001-2010	2011-2020	2031-2030
Range										
Projected Demand, all grazing animals	AUM's	88,902	88,902	88,902	88,902	88,902	88,902	88,902	88,902	88,902
Permitted use cattle	AUM's	47,532	50,000	50,000	50,000	52,000	54,000	54,000	54,000	54,000
Permitted use sheep	AUM's	1,824	1,824	1,824	1,824	1,824	1,824	1,824	1,824	1,824
Permitted use horses	AUM's	1,382	1,382	1,382	1,382	1,382	1,382	1,382	1,382	1,382

Supply Assessment

Supply is covered under Current Range Resource (Section 1), and Expected Future Condition of Resource (Section 3).

Feasibility Analysis

Program Emphasis:

Produce National Forest portion of needed range forage by effectively developing National Forest System ranges to their reasonably attainable potential.

Feasibility:

The assigned target for the Salmon Forest as established by the Regional Plan is 51,000 AUM's through 2030. The Forest currently exceeds this target. Budgeting constraints in effect now and in the foreseeable future will tend to slow down structural and nonstructural improvement. Allotment management planning targets probably can be attained; however, the improvement programs tied to those plans may lag behind.

Program Emphasis:

Improve and maintain environmental quality of National Forest Service ranges by managing the grazing in harmony with the needs of other resources and their uses.

Feasibility:

The goal is technically and environmentally feasible.

Program Emphasis:

Contribute to the maintenance of viable rural economies by promoting stability of family ranches and farms.

Feasibility:

Maintenance of the local ranching economy is feasible.

Program Emphasis:

Identify acres of unused or underused suitable range (including transitory range) and place in production under proper management.

Feasibility:

Will become a function of preparing and implementing AMP's.

Program Emphasis:

Implement a level of range management on all allotments that will improve the condition of all range that is now in less than satisfactory ecological condition.

Feasibility:

The Salmon Forest's range program as a whole is aimed at this goal. It is technically, economically, and environmentally feasible.

Program Emphasis:

Optimize the production and use of forage on all suitable range to the extent it is cost-effective.

Feasibility:

Covered under the above program emphasis.

Program Emphasis:

Make maximum use of a coordinated planning approach in developing all allotment management plans to better integrate improved management of National Forests, associated public lands, and privately owned lands.

Feasibility:

The Forest's Allotment Management Process emphasizes an interdisciplinary approach in all aspects of allotment management.

Program Emphasis:

Search out and apply techniques to resolve livestock grazing problems or conflicts with other resource users within riparian areas.

Feasibility:

Solutions are technically and environmentally feasible.

Program Emphasis:

Coordinate range improvement and management activities with wildlife habitat needs, especially on key habitat areas such as winter ranges, calving areas, riparian areas, and sage grouse leks.

Feasibility:

Entirely feasible and is a major emphasis now.

Program Emphasis:

Shift livestock grazing from lands in unsatisfactory condition (poor and very poor) where neither management nor treatment will result in improvement.

Feasibility:

Feasible.

Program Emphasis:

Develop management schemes to identify and better utilize available forage productivity on transitory ranges (timber harvest units, thinning, old burns, etc.).

Feasibility:

Increased production using cattle has been considered but is not really viable for the following reasons:

- Douglas-fir and Ponderosa pine types which are grazed are now relatively open and produce forage. Assuming that these timber types will not be clearcut, forage production and/or use by livestock will not be increased significantly by cutting.

- Lodgepole pine clearcut areas will, in most cases, be fenced if significant livestock use is anticipated.

- Transitory range on the total Forest is assumed to be a static acreage, with some acreage being cut and some reverting to timber.

Program Emphasis:

Examine and execute opportunities to realign allotment boundaries for more efficient operations.

Feasibility:

This is feasible and is part of the allotment planning process.

Program Emphasis:

Emphasize investment in rangeland improvement to bring forage production to optimum levels.

Feasibility:

The only constraint to achievement of this goal is budgetary and relates only to the time period involved in implementation of projects.

Program Emphasis:

Maintain present emphasis for livestock grazing.

Feasibility:

Feasible.

Needed Changes In Resource Management Direction

1. Livestock grazing is currently adversely impacting some riparian zones and conflicts with environment policy and direction. Grazing systems and structural improvements need to be implemented on some riparian zones if this direction and policy is to be met.

TIMBER MANAGEMENT

Existing Situation

1. Problem Situation Summary

The Salmon National Forest is approximately 72 percent productive Forest land including productive deferred and productive reserved. Approximately 45 percent of the Forest is classed as productive commercial. Average potential productivity on the Forest is about 45 cubic feet of wood per acre per year. The actual current net growth is about 26 cubic feet per acre per year. The difference between current growth and the observed potential is a result of the large acreages in older age classes and the generally unmanaged condition in the mature and immature timber classes.

High fuel loading levels are common on the Forest in the older age class stands. Average loadings range from 25 to 45 or more tons per acre depending on species and stand conditions. The 1973 timber inventory identified about 24 million board feet of natural mortality in the growing stock outside of the then existing Idaho Primitive Area. The majority of that mortality is not recoverable as industrial wood and thus continually adds to the fuel loading. An additional fuel loading impact is logging debris created on areas where complete slash reduction is impractical or impossible.

Dwarf mistletoe is common in both lodgepole and Douglas-fir. A survey in 1978 found that approximately 50 percent of the stands composed of these species were infected to some degree. It was estimated from that survey that a growth loss of 18.3 cubic feet per acre per year was occurring in the lodgepole pine infected with mistletoe.

Major insect problems on the Forest are concerned with mountain pine beetle (Dendroctonus ponderosea Hopkins) and western spruce budworm (Choristoneura occidentalis). Western spruce budworm has been the most destructive in sect on the Forest in the past. Since 1953, only five years have been relatively free of budworm defoliation and only 10 years without significant acreages classed as heavy defoliation. Surveys in 1981 indicated about 240,000 acres of defoliation but only about 500 acres were classed as heavy and 28,000 acres classed as medium.
Mountain pine beetle is currently at endemic levels. However, major epidemics have occurred in the past and the potential exists for their recurrence.

Other insect pests present include Douglas-fir bark beetle (Dendroctonus pseudutsuge), pine engraver beetle (Ips pini), pine butterfly (Neophasia menopia), and ponderosa pine needle miner (Coleotechnites spp.). A more complete discussion of insects and diseases occurring on the Forest and their effects and potential may be found in the AMS section on insects and disease.

2. Summary of Existing Plan Area, Volume, Growth, Mortality, Potential Yield and Programmed Harvest.

TABLE II-14

Component	Acres (M-Ac.)	Volume (MMCF)	Annual Growth (Net MMCF)	Annual Mortality (MMCF)	Potential Yield (UMCF)	(MMBF)	Programmed Harvest (MCF)	(MMBF)
Net Natl. Forest (administered)	1,777.0							
All Forest land	1,081.7	1,738.28	25.12	2.19				
Productive Reserved	263.4	427.50	4.33	.24				
Productive Deferred	23.1	31.90	.48	.04				
Comm. Forest land	985.7	1,278.88	20.31	1.91	11.71	56.2	8.15	39.1
Standard	230.9	296.91	3.12	.29	3.32	16.6	4.96	24.8
Special	19.9	26.71	.28	.03	.11	.5	1.48	6.7
Marginal	734.9	955.26	16.91	1.59	8.28	39.1	1.62	7.6
Unregulated	-----	---------	-----	----	-----	----	----	----

This information is based on the latest amendment to the current timber management plan modified to reflect the establishment of the River-of-No Return Wilderness.

3. Summary of policies, direction, silvicultural systems and cultural treatments.

Direction and policy for management of National Forest timber resources is found in a variety of documents and papers. These include:

National Forest Management Act of 1976
United States Code of Federal Regulations
Forest Service Manual and Handbook System
Forest Service Regional Plan Guidelines
Forest Land Management Plans
Forest Multiple Use Plans
Current Timber Management Plan
Other documented directive or policy statements such as Executive Orders and the President's Statement of Policy of December 12, 1980.

The underlying overall direction is that, consistent with the provisions of the National Forest Management Act, the commercial Forest land will be managed in such a manner that productivity will be brought up to and maintained at a level as close to potential as possible.

Both even aged and uneven aged are used with even aged being the predominant system. A variety of cutting methods and treatments are used depending on biotic and abiotic stand conditions, economic factors, and specific management direction that may apply in particular areas. All silvicultural practices for timber sale reforestation, and timber stand improvement projects are supported by a written prescription approved by a certified silviculturist. The primary treatments generally applied by species are:

Douglas-fir and North Aspect Ponderosa Pine

Primarily even aged systems are used, either shelterwood or clearcut. Most clearcuts are planted except small patch cuts. Pre-commercial and commercial thinning is done where applicable. The percentage of clearcut is less in the ponderosa pine than Douglas-fir due to lack of dwarf mistletoe in the pine.

South Aspect Ponderosa Pine

Generally systems more related to uneven aged than even aged are used. Clearcuts other than very small patch cuts are not feasible in the type due to regeneration problems. Selection, group selection and small group shelterwoods are used. Natural regeneration is usually planned. Pre-commercial thinning has very limited applicability.

Lodgepole Pine and Associated Species

Clearcutting is usually the system of choice in lodgepole and natural regeneration can be assured in most situations. Pre-commercial thinning is necessary in most regenerated lodgepole stands to avoid insect disease and stagnation problems. Modification of the general silvicultural system is necessary when subalpine fir, Engelmann spruce, or Douglas-fir is present in order to respond to the particular biological needs of those species.

Logging systems which have been used and are feasible within the limits of their own applicability are rubber tired skidder, tractor, jammer, highlead, live skyline, helicopter, and low ground pressure vehicles.

The silvicultural and logging systems used may require modification to meet specific land management direction or resource coordination requirements. When such modifications are required, they must be based on sound ecological and biological

principle and should involve the least compromise of sound silvicultural practice possible consistent with the land use constraints specified. The issues which generally require the greatest need for modification are those involving wildlife habitat, fisheries habitat, visuals resource management, and soil and watershed management.

Current Management Direction

1. General direction applicable to timber management is obtained from the Regional Guide.

2. Specific direction which is applied Forest-wide on commercial Forest land that affects yields and prescriptions.

   - Silvicultural standards will insure that, generally, stands of trees shall be harvested when mature (culmination of mean annual increment of growth). However, timber stand improvement measures, salvage operations and removal of trees for multiple-use purposes are not precluded.

   - When trees are cut to achieve timber production objectives, the cuttings will be made in such a way as to assure that lands can be adequately restocked within five years after final harvest.

   - Clearcut units will be subject to a maximum size limitation of 40 acres with the following exception:

     - Clearcuts may exceed 40 acres with Regional Forester approval and may exceed 60 acres with public review and Regional Forester approval. Requests for approval must explain the benefits gained.

     - Clearcuts may exceed 40 acres in the case of catastrophic mortality but Regional Forester review and approval is required if openings so created will exceed 60 acres.

Description of Future Stand Conditions (Year 2030)

A description of expected future conditions in relation of insect and disease, fire, and impacts on other resources and values may be found in the section pertaining to these subjects.

If the current management direction were to be continued, stand vigor would be expected to improve relative to the present condition. As the existing sawtimber stands are converted to younger age classes and as more intensive cultural treatments are applied, the volume increment would increase. At the same time the younger and more vigorous stands would be less susceptible to insect and disease with a resultant lessening of mortality losses.

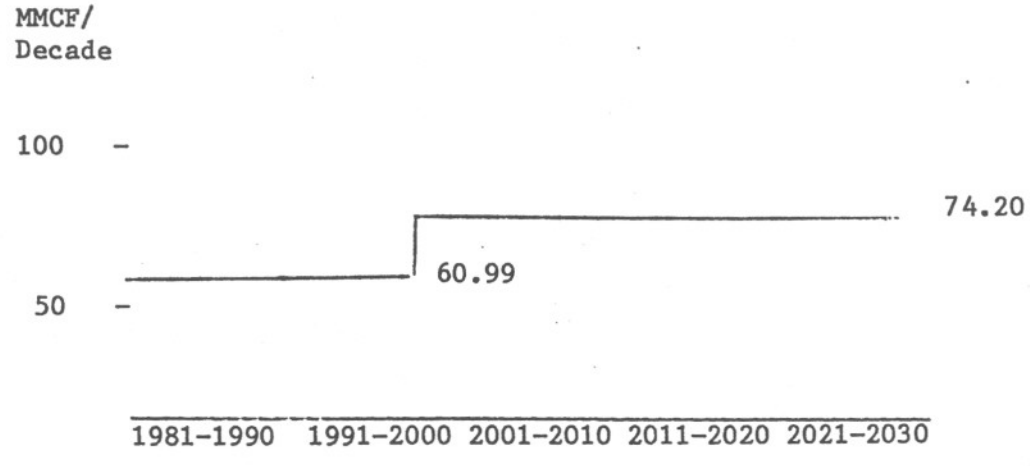
TABLE II-15

Expected acres by age class are:

Age Class:	0	10	20	30	40	50	60	70	80	90	100
M Acres:	14.0	25.2	41.4	45.9	35.3	33.2	0	0	0	0	3.9

Age Class:	110	120	130	140	150	160	170	180	190	200
M Acres:	0	0	0	12.8	51.8	35.0	63.6	0	0	44.7

Expected flow of timber volume to year 2030 is:



Demand Analysis

A study was undertaken by area Federal land management agencies in 1980 which may shed some light on the socio-economic conditions currently effecting demand for timber. This study determined what timber volume species and size classes were needed by area mills to meet their production goals.

The timber volume expected to be offered annually by the four Forests supplying mills in the area involved in the study is about 30 million board feet less than that desired by industry. This short fall in supply assumes that seven of the mills responding desired to operate on a two shift basis. A problem also exists in the timber species desired by the mills and those species that are planned to be offered in timber sales. About 10 million board feet more ponderosa pine is desired than is available. The supply and demand of small logs

under 10 inches is fairly well balanced area wide. One problem that exists, is the lack of mills in the Salmon area which can profitably mill the small logs from the Idaho Forests. It is expected that over 1/3 of the timber volume available on the Salmon Forest will be small logs.

This 1980 study also reviewed the relationship of the small business set aside program to the supply demand problem. Nine of the 14 mills responding to the questionnaire were small businesses. The small mills had 1.2 years volume under contract while large businesses had about 1.05 years volume under contract. There were no small business mills who cut small logs exclusively.

Seven of the nine small business mills operated less than year long, while two operated year long. Normally the same seven mills operated one shift while the other two operated two shifts. Timber volume under contract as of December 31, 1981, was as follows: small business 28 MMBF, large business 41 MMBF, for a total of 69 MMBF under contract.

Table II-16 details the 1974-1978 average volume harvested by species on Federal and State lands in the area surrounding the Salmon National Forest.

The Salmon, Beaverhead, and Bitterroot National Forests share or provide timber to three mills in the area, the mill at Salmon, the mill at Darby, Montana, and the stud mill at Conner, Montana. Data is not presently available on the exact contribution by species to each of these mills, however, most timber from the Salmon National Forest is processed in Ravalli and Lemhi Counties. It is estimated that one million board feet annually of timber in these two counties is produced by BLM lands, while .5 million board feet originate on private land in comparison with 39 to 40 million board feet harvested from the Salmon National Forest. The Leadore District on the Salmon has a small amount of wood products being processed at the mill at Dillon, Montana.

The Salmon National Forest demand curve for timber is horizontal.

Fuelwood

Current consumption of fuelwood on the Forest is now about 5 million board feet per year, and will continue to increase slightly as the population increases. The standard rate price of fuelwood is $2 per cord. This price is determined from the Region 4 supplement to the standard rates.

TABLE II-16

FY 1974-1978 Average Volume Harvested by Species 2/

MMBF

Forest	P. Pine	D. Fir	LLP/O	Total
Bitterroot	8.2	9.9	10.5	28.6
Beaverhead	-	1.7	10.6	12.3
Challis	-	5.0 1/	0.7 1/	5.7
Salmon	10.3	20.4	4.1	34.8
BLM (Salmon District)			0.1	0.1
State of Idaho (Salmon-Challis Ares		0.2		0.2
Totals	18.5	37.2	26.0	81.7

1/ Species Estimated

2/ Source: "Timber Supply Needs Studied" press release dated January 4, 1980, by the Salmon National Forest.

For fiscal years 1979-1981 on the Salmon National Forest average sawtimber volume offered was as follows: Ponderosa pine 6.6 MMBF, Douglas-fir 19.3 MMBF, lodgepole pine 11.6 MMBF.

WATER AND SOILS

The goal of watershed management on the Salmon National Forest, is to provide the optimum contribution of the water resources from National Forest lands to the Nation's present and future needs. Included is the protection, and where appropriate, the enhancement of soil productivity, water quality, and quantity. Specifically, emphasis is placed on meeting water quality standards, reducing pollution and the reduction of stream sedimentation.

Current Management Situation - Water Resource on the Salmon National Forest

The Salmon National Forest contributes an average 1,039,000 acre feet to the Pacific Northwest River Basin each year. Downstream uses include irrigation, industry, recreation, municipalities, fisheries and power generation. Regional demands are currently less than the existing supply. A water yield augmentation issue has not been identified for the Salmon, Snake or Columbia Rivers.

One municipal watershed and two community watersheds are located on the Forest. The City of Salmon has been utilizing the Jesse Creek watershed (which consists of the Jesse Creek, Chipps Creek and Pollard Creek drainages). While the yield from the watershed is more than adequate for current uses, the City of Salmon does not have water rights to the entire flow. Recently, water shortages have been experienced in the City of Salmon which are being mitigated by supplemental pumping from the Salmon River. Additional future needs are expected to be met by the use of the Salmon River as well. The community of Gibbonsville gets its water from Anderson and Dahlonega Creeks via an open and untreated ditch system. The water from Dahlonega Creek is not used for culinary purposes except during drought periods when it is diverted into the Anderson Creek dredge pond. Approximately 25 families have been served by this water system. The source provides more than adequate volume for all current and anticipated future uses. However, water quality does not, and historically has not, met State standards for potable water. The mining community of Cobalt is served by the Spring Creek community watershed. Past populations of up to 1500-1600 persons and current populations at Cobalt have been adequately served by this watershed. If the community becomes heavily populated, the watershed is expected to meet the needs.

Several consumptive uses of water on the Salmon National Forest are covered by Federal Reserved water rights. Examples of these uses include work centers, guard stations and lookouts. Uses on National Forest, such as stock watering troughs and campgrounds have been filed in accordance with Idaho State Laws and procedures in order to establish State water rights on these uses.

On the Salmon National Forest, there are approximately 850 consumptive water uses. These include approximately 750 livestock water troughs or ponds, 23 administrative uses, 38 recreational sites as well as several miscellaneous uses. Total consumptive use within the Forest boundary is approximately 1000 acre feet or less than 1/100 of 1 percent of the average yearly output of the Forest.

In the Salmon area, off Forest use includes municipal and domestic purposes, fisheries, recreation, mining and irrigation. Water rights issued by the State of Idaho for these purposes are recognized by the Salmon National Forest.

The Salmon National Forest also has both consumptive and non-consumptive Federal water rights within the streams of the National Forest lands. These rights are for the purposes of securing favorable conditions of water flow and for continuous supply of timber as identified by the Organic Administration Act of 1897. Nonconsumptive instream flows are also needed for the purposes of fish and wildlife, grazing, and recreational resources as required by the Multiple Use-Sustained Yield Act of 1960. Other Federal legislation directing management of National Forest System resources may also require instream flows.

Approximately 26 streams which support anadromous fisheries and 23 streams which support resident fisheries have been identified as high priority streams for the quantification of instream flow needs. Currently, 57 diversions of water exist on the Forest. These include 6 on the Cobalt District, 8 on the Salmon District, 9 on the North Fork District and 34 on the Leadore District. The majority of these diversions are for irrigation of lands below the Forest boundary within the Lemhi and Salmon River valleys. Additional diversions are currently being proposed by local residents for hydropower, mining, and irrigation purposes. The Forest is reviewing proposals for water developments on National Forest lands. Through individual instream flow analysis, the flow needs will be quantified in order to protect Federal rights to instream flow.

Thirteen small impoundments are located within the Forest boundary or immediately adjacent to the Forest. Seven of these are used for irrigation, one for mining, two for domestic use and three for recreation. A listing of the impoundments and their locations and capacities is shown in the AMS.

Riparian

Riparian areas are land areas which are directly influenced by water. They usually have visible vegetative or physical characteristics showing this water influence. Streams, lakes, ponds, wetlands, flood plains, and their associated aquatic habitat, which supports distinct vegetative communities characterize the riparian areas on the Forest. Less than 5% of the Salmon National Forest is characterized as riparian habitat, including 4488 stream miles, covering 92,794 acres. Riparian areas have been influenced by numerous land management activities, including timber harvest, road construciton, grazing, mining, and recreation use. Impacts to riparian areas have included increases in fine debris, bank instability, reduction in cover and canopy, soil compaction, lowered water tables and associated changes in vegetative types, loss of top soil and relocation of stream channels.

Generally, water quality on the Salmon National Forest is good. Two areas, however, have been identified as sources of water quality degradation on the Forest. The most critical problem is the Blackbird Mine area, where acid mine drainage has degraded water quality. Affected streams include Blackbird Creek, Panther Creek, Bucktail Creek and Big Deer Creek. In all, approximately 35 miles of stream have been directly affected by acid mine drainage. The high levels of toxic heavy metal and acidity have severely reduced fisheries in these streams. Another water quality problem existed in the Dump Creek - Moose Creek drainages. A major restoration project implemented in 1979 has been reducing the sedimentation of the Salmon River from the Dump Creek drainage. Other sources of water quality degradation include short term impacts resulting from timber harvest, mining, road construction, and grazing. The impacts of road construction and timber harvest on sedimentation of streams has been identified as being a significant issue. In several streams, such as Spring Creek and Silver Creek, previous land management activities

combined with unstable soils have resulted in high levels of sedimentation in the streams.

Current Management Situation - Soils Resource on the Salmon National Forest

The Salmon National Forest has been mapped according to the Landtype Association Level (Order 4) and to the land type (Order 3). There are six major land type associations found on the Forest; steep canyonlands, fluvial lands, cryoplanated uplands, cryoplanated basin lands, glacial trough lands, and strongly glaciated lands.

The Forest is composed of four general geology types; granitics, quartzites, volcanics, and sedimentary. Soil textures in the granitic and quartzites range from loamy sand to loams. On sedimentary land types the soil types range from sandy loams to clay loams. Volcanic soils have textures of clay loams with clay sub-soils in some areas.

The most unstable areas on the Forest are the volcanic soils and are subject to creep, debris flow, mass movements and road failures. Highly erosive soils are found in the granitics, within the Idaho Batholith as well as the rhyolitic volcanics. The inherent erosion hazard is high to very high for disturbed areas in very steep topography.

The soil productivity ranges from low to high on the Forest. Generally, the granitic landtypes have low soil productivity rates. The quartzite landtypes have a medium soil productivity due to loamy soil textures and good drainage. The volcanic landtypes have a high soil productivity. However, volcanic soils have poor drainage, due to the high clay content in the subsoil. This results in poor seedling establishment. The sedimentary landtypes also have a high soil productivity, but produce lower amounts of timber. This is attributed to low precipitation, shorter growing season and high elevations.

Several areas have been identified on the Salmon National Forest Soil and Water Improvement Needs Inventory which are active sources of water quality degradation.

Road and jeep trail closure and/or stabilization	314 Acres
Gully control	33 Acres
Streambank stabilization and clearing	106 Acres
Accelerated erosion problems	145 Acres
Total backlog	598 Acres

Soil limitations, resulting from very high erosion and mass movement hazards are common in the Ryolitic volcanic and granitic landtypes. The volcanics are especially prone to mass failures. The granitics are susceptible to mud and debris slides. Special mass movement hazard areas include Singheiser, Wagonhammer, Sheep Creek, Hayden Creek, Reservoir Creek, North Fork Iron Creek, Dump Creek area,

McGowan Basin, and Moyer Basin. Numerous high erosion areas have been identified in the watershed condition inventory. Ice jams and high peak flows along the Salmon River have historically caused flooding in the Salmon River Valley. Especially susceptible to ice jams is the Deadwater area, a low velocity reach immediately above the Dump Creek fan. During especially cold winters, these ice jams have backed up to the city of Salmon and further.

Other flood prone areas include two reaches of Panther Creek. These include a reach from Hot Springs Creek to approximately one mile above Beaver Creek, and a reach from Deep Creek to Moyer Creek. In both cases flooding occurs during high peak flows in the spring as well as during ice jams during the winter months. In both cases, the Panther Creek road is often threatened by water and ice.

Future Conditions of the Resource

In the Pacific Northwest, projected consumption of water from the Columbia River system is not expected to exceed available surface and ground water supplies. However, as populations continue to increase, localized shortages are expected to increase. Within the Region, these shortages are expected to be addressed on a local level, and not through water yield augmentation on a Regional level.

In Salmon, municipal needs have already exceeded the availability of water from the municipal watershed. The additional needs are now being met by the use of a pump station on the Salmon River. Additional needs are expected to be met with the use of this supplemental system.

The other community systems (Gibbonsville and Cobalt) are expected to provide a volume of water to meet future demands.

Future irrigation water demand in the Lemhi and Salmon Valleys are expected to be met by additional off-Forest improvements. Since most of the economically viable croplands have been developed in these valleys, additional water needs should be met by conservation practices.

Water storage and transmission facilities will continue to be evaluated as other agencies or special use permittees make suggestions.

Research Needs

Research is needed to determine: 1) Natural soil erosion rates on granitics, volcanics, quartzite, and sedimentary soils; 2) soil loss tolerance limits and ways to estimate soil losses; 3) the effect of different management activities that cause soil compaction and effects upon vegetative and soil productivity; 4) the nutrient availability in relationship to soil depth.

Need For Change In Resource Management Direction

Although current levels of mineral activity have slowed, the potential for future activity remains high, and the need for soil and water support is expected to increase.

Post project reviews need to be incorporated into a significant number of land management activities in order to ensure that mitigation measures are effectively protecting the soil and water resources. Long term trends in the condition of the soil and water resource need to be better documented by recurrent inventories and monitoring.

Additional training to District personnel in soil and water resource management should be incorporated into the work plans of the soil and water programs on the Forest. Training programs for line officers and District staff should be developed to inform them of current policies and methodology of soil and water resource management.

MINERALS AND ENERGY

Current Situation

1. Available - The entire Salmon National Forest should be considered available for mineral/energy exploration subject only to constraints imposed by the following:

Total Acres	1,800,882	
Unavailable Acres		
Outstanding rights	none	
Reserved rights	28	
Existing withdrawals	*39,939	est.
Sub Total	39,967	
Constrained Acres		
P.L. 167 (surface rights)	3,985	est.
P.L. 359 (powersites)	22,112	net est.
P.L. 96-312 (CIWA)	427,258	
P.L. 96-312 (streams)	201	miles, est.
Proposed Wilderness	76,749	
Weeks Law status	947	est.
Sub Total	530,051	
Total net unconstrained available	1,230,864	

*Approximately 10,000 acres of the total withdrawals are in a temporary (1991 expiration date) administrative withdrawal on the recreation segment of the Salmon Wild and Scenic River.

Summary: Approximately 69 percent of the Salmon National Forest is open to mineral entry under the general mining laws with no restrictions other than valid existing rights and such surface resource protection measures as may be required under 36

CFR 228. Wilderness and proposed Wilderness acres that are not formally withdrawn or subject to dredge and placer mining restrictions are open to mineral entry and development subject to "preservation of Wilderness character." However, formally designated Wilderness areas were closed to mineral entry at midnight, December 31, 1983 under provisions of Sec. 4(d)(3) of the Wilderness Act of 1964.

2. Locatable Minerals

BLM recordation records show that there are approximately 229,000 acres of lode, placer, tunnelsite, and millsite claims filed on lands administered by the Salmon National Forest. The Forest has not been a significant producer of mineral commodities since 1966. However, there is a possibility that the Blackbird Cobalt-Copper Mine will reopen during the 10-year planning period. Historic mineral production is displayed in Table II-17.

TABLE II-17

Past Mineral Production 1864-1977
Salmon National Forest
(1864-1900 Estimated U.S.G.S., 1901-1977 U.S.B.M.)

Commodity	Amount	5/14/80 Gross Value
Gold	639,929 ounces	$319,964,500
Silver	3,807,301 ounces	57,109,515
Copper	69,949,399 pounds	59,949,399
Lead	154,604,229 pounds	73,302,115
Zinc	156,539 pounds	59,484
Fluorspar	Confidential	
Cobalt	16,124,868 pounds	403,221,700
Total		$925,606,713

Past mineral exploration and production activities within the Forest have created serious environmental problems, primarily in the areas of degraded water quality and aquatic habitat, in the vicinity of the Blackbird Mine.

Currently there is a low level of company exploration for cobalt, copper, gold, and silver. The mining activity is generally tied to small operations

3. Leasable Minerals

There has been no historic production of leasable minerals from the Salmon National Forest. Leasable commodities of possible economic importance include oil and gas, geothermal, and phosphate.

a. Oil and Gas - There is one oil and gas lease (approximately 1,538 acres) on the Forest. There has been no

exploratory activity on these leases although Amoco drilled a wildcat well on nearby State lands in 1981. There are also 40 to 50 pending oil and gas lease offers (approximately 99,756 acres).

b. Geothermal - Four geothermal lease applications have been received for 6,400 acres of Salmon National Forest lands. Of these four applications, two leases were granted and both of these have since been relinquished.

c. Phosphate - Nine phosphate prospecting permit applications have been received for approximately 23,040 acres of Salmon National Forest lands. An EA has been approved for the prospecting permit applications; however much of the area is in the Italian Peak Roadless Area. There can be no surface disturbance in the Roadless Area until the area is evaluated in the Forest Plan.

4. Common Variety Minerals - Saleable mineral resources such as sand and gravel, are present in limited quantities within the Forest boundary. Past and current use have been light. Sources of rock suitable for rip-rap material for use in the Salmon and Lemhi Rivers are limited.

Current Management Direction and Situation

Goals and objectives for the Salmon National Forest are found in existing laws, regulations, and agreements. Refer to the EIS for a listing of these goals and objectives.

Special Areas

1. Frank Church--River of No Return Wilderness and associated Wild and Scenic Rivers.

   a. Middle Fork of the Salmon River and the Salmon River from Corn Creek to Long Tom Bar are withdrawn to mineral location and leasing, subject to valid existing rights, under the Wild and Scenic Rivers Act.

   b. The Salmon River from Corn Creek upstream to the town of North Fork is classified as a recreational river under the Wild and Scenic Rivers Act. This segment of the river is withdrawn from mineral location under a temporary segregation (made by BLM) which expires in 1991.

   c. The Salmon River from the town of North Fork downstream to Long Tom Bar, and the Middle Fork of the Salmon River and its tributaries in their entirety (both within and outside of the Frank Church--River of No Return Wilderness) are closed to dredge and placer mining in any form by the Central Idaho Wilderness Act. This closure is not subject to prior existing rights. Tributaries to the Middle Fork

outside of the Wilderness and on the Salmon National Forest total approximately 201 miles.

The Central Idaho Wilderness Act also designated 39,900+ acres within the Frank Church--River of No Return Wilderness as a Special Mining Management Zone wherein "All prospecting and exploration for, and development or mining of cobalt and associated minerals shall be considered a dominant use of such land and shall be subject to such laws and regulations as are generally applicable to National Forest System lands not designated as wilderness or other special management areas, including such laws and regulations which relate to the right of access to valid mining claims and private property: Provided that...the mining or processing of cobalt and associated minerals within the Special Management Zone does not significantly impair the overall habitat of the bighorn sheep located within, or adjacent to, such Zone."

The Frank Church--River of No Return Wilderness was closed to mineral entry (except as described above) on midnight, December 31, 1983, under general provisions of the 1964 Wilderness Act.

2. Net powersite classifications (powersites [48,809 acres] minus subsequent withdrawals [26,697 acres]) total 22,112 acres. There are two separate classifications: #50, September 29, 1922, and #280, December 19, 1933. Number 50 is on the Salmon River and #280 is on the Middle Fork and Panther Creek. The 22,112 net acres are open to mineral entry subject to P.L. 359.

3. The 76,749 acre 1979 RARE II administrative wilderness proposal in the Lemhi Range is to be managed to preserve its Wilderness character until such time as a formal decision is made that it will or will not be Wilderness. It is open to mineral leasing and location.

4. There is one 1,600 acre Research Natural Area on the Forest. It is located within the River-of-No-Return Wilderness, and therefore has been withdrawn from mineral entry. Additional Research Natural Areas will probably be established on the Forest and requests may be made to withdraw them from mineral entry.

Future situation if current direction and situation continue:

The Salmon National Forest contains the largest hi-grade reserves of cobalt in the Nation. Cobalt is a strategic metal vital to the manufacture of jet engines. Considering (a) over all projected future demand for minerals and energy; (b) the strategic nature of some of the Salmon Forest's mineral resources; and (c) the excellent potential for discovery of additional mineral resources, the Forest has a higher than average probability for an increase in workload in minerals area management.

Demand Analysis:

1. Historical Production

   a. Hardrock - refer to locatable minerals in current situation section, this report.

   b. Leasables (nonenergy) - none

   c. Leasables (energy) - none

   d. Mineral Material Permits (Includes Free Use and Charge) 1/

FY	Tons (Est)	FY	Tons Est.
76	35,000	81	No figures available
77	10,000	82	4,000
78	12,000	83	12,000
79	2,000	84	20,000
80	10,000		

   1/ Free Use = State, County, and BLM

2. Projected Demand:

   Mineral development and production are difficult to predict. Recent history has shown an increased interest in placering operations for gold. The cobalt mine has been shut down and future development of this mine will be determined by the price of cobalt. Future technology, change in economic conditions, new discoveries, and changing needs will determine the amount of mineral activity. Current policy directs that lands not specifically identified for mineral withdrawal will be open to mineral exploration and development. The demand for leasables (oil and gas, phosphates, geothermal) are very unpredictable. At present, there is only a minor interest in lease applications. Saleable common variety minerals continue at much the same demand as in the past.

Supply Assessment

1. Probability predictions -

   A 1:50,000 scale minerals and energy map (on file in the Supervisor's Office) has been prepared for the Forest. This map displays:

   a. Mining Districts with past mineral production.

   b. Areas with future mineral development potential, by commodity (based on known occurrences, favorable geology, and past production).

c. Areas favorable for discovery of porphyry-copper type ore deposits (based on U.S.G.S. data).

d. Location of all known mineral occurrences, by mineral commodity (data from numerous sources).

e. Areas with unevaluated oil and gas phosphate, and geothermal potential (based on geology).

Based on U.S.F.S. mineral evaluation, U.S.G.S. RARE II mineral potential classifications, and confidential industry data, all of the Forest with known mineral potential should be considered to have a moderate mineral potential for the purpose of broad scale Forest Planning. Areas with unknown potential indicate insufficient data to make professionally sound evaluations.

D. SUPPORT AREAS

Research Natural Areas

1. Research natural areas are relatively small land areas which typify important forest, shrubland, grassland, alpine, aquatic, geologic, and other natural situations that have special or unique characteristics of scientific interest and importance. They are limited to research, study, monitoring, and kinds of educational activities that are nondestructive and non-anipulative, and that maintain unmodified conditions.

2. Current Direction

In response to the National Forest System Land and Resource Management Regulations (36 CFR 219), the Intermountain Region is assessing and developing the opportunities available in helping to complete the National network of research natural areas. The National network presently consists of the Forest cover types as identified and defined by the Society of American Foresters (SAF types) and the Potential Natural Vegetation Types (PNV types) identified by Kuchler for the United States. However, because the planning regulations indicate that aquatic and geologic types must also be identified at the Regional level, the Intermountain Region has adopted the aquatic ecosystems classification for Idaho Natural Areas by Rabe and Savage, and developed a general geologic classification based on rock type, geomorphic process, and unique features.

As a minimum, the Intermountain Region will attempt to establish one or more RNA's in each of the vegetation and aquatic types. The geologic type criteria will be used to help define the abiotic variation within each type when considering a proposed RNA.

Currently, there is only one established RNA (Gunbarrel Creek) on the Salmon Forest. It was established in 1972 to include a portion of the 1961 Corn Creek fire. Forest types are primarily

ponderosa pine and Douglas-fir series. It provides an excellent opportunity to observe and study plant succession following natural fire. It is now within the Frank Church--River of No Return Wilderness Following are 10 potential RNA's along with important features contained in each. These 10 have been studied and recommended for establishment by the Intermountain and Idaho National Areas coordinating committee.

TABLE II-18

Known and Estimated Features in Recommended Research Natural Areas
Salmon National Forest

FEATURE	(1) FROG MEADOWS	(2) MILL LAKE
Habitat type or community type	1/ ABLA/VASC 3/ ABLA/LEGL *1/ PICO 1/ ABLA/VASC-CARU 1/ ABLA/CARU 1/ ABLA/CACE	1/ PIAL-ABLA 1/ ABLA/VASC 1/ PIAL *1/ Alpine communities
Alpine or near alpine		*Alpine
Aquatic	Low gradient stream *Wet meadow	Low to moderate gradient streams *Wet meadow *Alpine ponds
Geologic	Granitics	Precambrian quartzites Glaciation
Rare or unusual		*Rare plants
Area (Acres)	336	720
Screening Criteria		
1. Human Impact	None/little	None/little
2. Needed to fill cells	Yes	Yes
3. Priority for protection	Moderate	High
4. Potential for conflict	Low	Low

1/ Major; 2/ Minor; 3/ Trace
*Indicates features for which selected

TABLE II-18 (continued)
KNOWN AND ESTIMATED FEATURES IN RECOMMENDED RESEARCH NATURAL AREAS
SALMON NATIONAL FOREST

FEATURE	(3) ALLAN MOUNTAIN	(4) BEAR VALLEY CREEK	(5) COLSON CREEK	(6) DOME LAKE	(7) DRY GULCH-FORGE CR
Habitat type or community type	*1/LALY-ABLA 1/ABLA/XETE *1/ABLA/XETE VGLA PHASE 3/ABLA/LUHI 3/ABLA/LEGL 1/PIAL-ABLA 3/FEID/AGSP 1/Rocklands	1/ARTRV/FEID 2/PSME/FEID *1/PSME/CARU 2/PSME/CELE *1/PSME/SYOR *2/PIEN/CADI *2/ABLA/VASC 3/ABLE/CACA 1/ABLA/CARU 2/ABLA/LEGL 2/ABLA/STAM *2/ABLA/LIBO 2/ABLA/JUCO 1/PIAL-ABLA 2/Alpine communities 2/Rocklands	*2/ARTRT/AGSP *1/ARTR2/AGSP *1/ARTR2/FEID *1/FEID/AGSP *1/AGSP/STCO 2/CELE/AGSP 2/GLMN/AGSP 2/PIPO/AGSP 2/PIPO/FEID 1/PSME/FEID	PSME and ABLA series	*1/FEID/AGSP *2/ARTRT/AGSP 1/ARTRV/AGSP 1/ARTRV/FEID *2/CELE/AGSP 2/PIPO/AGSP 2/PSME/AGSP 1/PSMW/FEID 1/PSME/CARU 1/PSME/PHMA *1/PSME/CELE *2/PSME/PUTR *2/PSME/AGGL *1/POTR 1/Rocklands
Alpine or near alpine	Near alpine	Alpine			
Aquatic	*Low to steep gradient streams *Wet meadows	Low to steep gradient streams Wet meadow		Medium to steep gradient streams *Mid-elevation	Moderate to steep gradient *Waterfall
Geologic	Precambrian Belt siltites quartzites	Precambrian Belt Glaciation	Precambrian high grade metamorphic	Precambrian high grade metamorphic	Granitics
Rare or unusual		*Rare h.t.s.	*Rare plants		*Rare plants
Area (Acres)	1650	2500	280	1700	3235
Screening Criteria					
1. Human Impact	None/little	None/little	None/little		None/little
2. Needed to fill cells	Yes	Yes	Yes	Yes	Yes
3. Priority for protection	High	High	High	Scheduled for additional Field Review during summer- 1982	High
4. Potential for conflict	Low	Moderate/Low	Low		Low

1/ Major; 2/ Minor; 3/ Trace *Indicates features for which selected.

TABLE II-18 (cont.) KNOWN AND ESTIMATED FEATURES IN RECOMMENDED RESEARCH NATURAL AREAS SALMON NATIONAL FOREST

Province C

FEATURE	(8) DAVIS CANYON	(9) KENNEY CREEK	(10) DEADWATER
Habitat type or community type	2/ ABLA/XETE *1/ ABLA/CAGE 1/ ABLA/VASC 2/ ABLA/MEFE 1/ ABLA-PIAL *1/ PSME-PIAL/CAGE 1/ PSME/CAGE 2/ PSME/VAGL 1/ PSME/SPBE 1/ PSME/PHMA 1/ PSME/CARU 2/ CELE/AGSP 2/ ARTRV/CAGE 1/ CAGE MEADOWS	1/ PIAL/VASC 1/ PIAL/CAGE *1/ PIAL/FEID 1/ PIAL-ABLA 1/ ABLA/VASC 2/ PIEN/CADI 1/ PSME/CARU 1/ PSME/SPBE *1/ PSME/FEID	* Riparian types (described by Thomas Collins)
Alpine or Near Alpine	Alpine	Near alpine	
Aquatic and Riparian	Low to steep gradient streams	Low to steep gradient streams Wet meadows Bog meadows Cirque basin pond Springs and seeps	Islands in Salmon River
Geologic	Belt - Quartzite	Belt - Quartzite Glaciated cirque	River alluvium
Rare and unusual			
Area (Acres)	1215	1690	30
Screening Criteria			
1. Human Impact	None/Little	None/Little	Moderate
2. Needed to fill cells	Yes	Yes	Yes
3. Priority for protection	Low/Moderate	Low/Moderate	High
4. Protection for conflict	Low	Low	High

1/ Major; 2/ Minor; 3/ Trace

* Indicates features for which selected

3. Issues and Concerns

Management concerns evolved around what areas should be proposed and how proposed areas should be scheduled through the allocative process in Land Management Planning.

4. Conclusions

a. Capability to Resolve Issues and Concerns

National and Regional policy on the selection and establishment of RNA's is explicit. Forest Planning will address this process in development of alternatives. Administration and management of existing and proposed RNA's will also be addressed in the Forest Plan. Due in part to the work of the Idaho Natural Areas Committee, much of the field work, processes and evaluations of potential areas needed to meet National network objectives has already been completed. This will continue to be an on-going process.

Air Quality

1. Existing Situation

The 1977 Amendment to the Clean Air Act specified that all existing Wilderness of record on July 7, 1977, were automatically designated as Class I areas. Since the Frank Church--River of No Return was established in July 1980 it is a Class II area along with the remainder of the Forest.

Nonattainment Areas

There are no nonattainment areas on the Forest.

Sources of Pollutants

There are no major sources of pollutants within a 50 miles radius of the Forest.

There are moderate sources from the sawmill in Salmon, Idaho.

Periodically, minor amounts of pollutants occur from 1) prescribed burning in the fall by the Salmon and surrounding Forests, 2) fire management fires burning in areas north of the Salmon Forest, 3) wintertime fires from Lemhi Valley homes burning wood, and 4) dust from roads, logging operations and the mining operations at the Blackbird Mine, during the summer months.

We may also get more than normal amounts of pollutants (smoke) from wildfires, both on and off the Forest.

Baseline Information - Total Suspended Particulate Level

Contributions of the Salmon Forest to the total southeastern baseline suspended particulate level is unknown. What small contribution we make comes from wildfire and prescribed burning. Our average burned area for wildfire has been 2000 acres for the past ten years. Prescribed burning averages about 2000-3000 acres per year, which is scattered throughout the Forest.

Trend in Emissions

In the future the Forest may be more involved in natural fire management and prescribed fire for wildlife and range improvements, but slash burning may be curtailed due to the need for wood as an energy source. In any event we do not anticipate a major increase in emissions.

Air Quality Increments

Current Direction

The State Department that had the responsibility for Air Quality was not funded in 1981. Funds were restored during the 1982 State Legislature session. The State has a plan which is in effect. (Currently, there are no quality levels set for this section of the State.)

Historically, Air Quality over the Salmon Forest has been good and usually exceeds National and State standards. Close relations will need to be continued with the EPA and the State of Idaho.

Issues and Concerns

No issues or concerns were developed for this item.

Conditions to Year 2030

We do not anticipate any problems with meeting standards in the foreseeable future unless some major development occurs, i.e., major gas and oil strike, large mining operations, etc.

Trends in Nonattainment Areas

There are no nonattainment areas on the Forest.

Trend in Class I Areas

No Class I areas on the Forest.

Achievement of Objectives and Policies

Under current State guidelines, Forest activities affecting air quality can meet all requirements.

Research Needs

None are anticipated at this time.

Conclusion

- Resolving issues and concerns - No issues or concerns were identified.

- Need to change resource management direction - Changes in management direction are not anticipated based on current knowledge, activities, and needs.

Fire Protection

1. Existing Situation

TABLE II-19

Fire Occurrence and Acres Burned

	Man-Caused		Lightning-Caused		Totals	
Year	No. of Fires	Acres	No. of Fires	Acres	No. of Fires	Acres
1971	16	585	50	52	66	637
1972	11	36	96	1,878	107	1,914
1973	19	43	49	38	68	81
1974	16	10	36	16	52	26
1975	4	1	27	4	31	5
1976	8	29	21	9	29	38
1977	2	17	58	95	60	112
1978	3	5	39	178	42	183
1979	15	2,819	64	11,615	79	14,434
1980	5	45	32	21	37	66
Totals	99	3,590	472	13,906	571	17,496
Averages	10	359	47	1,391	57	1,750

For the period 1971-1980, 17 percent of the 571 fires that occurred on the Forest were person caused and 83 percent were lighting caused. Lightning caused fires accounted for 79 percent of the 17,496 acres burned on the Forest. The numbers and locations of lightning caused fires have not changed significantly in the 60 years that records have been kept. The average number of person caused fires has not changed significantly in the last two decades.

2. Condition of the Forest if Current Direction Continues to 2030

We can expect a gradual upward trend in fire occurrence and acreage burned during the period. This is due primarily to the

continued accumulation of natural fuels. This will be partially offset by timber harvest methods that tend to break up large blocks of continuous fuels into more manageable units. However, as fuels build up in areas undisturbed by fire or timber harvest, fires will burn with greater intensity, thus, more fires can be expected to escape initial attack and go to project size.

The present trend is a steady reduction in suppression forces. If this trend continues far into the period, it will also contribute to increased acreages burned.

No significant changes are expected in lightning fire occurrence. We can expect an increase in person caused fires due to increasing numbers of people in and around the Forest. Recreational activities, mineral and energy exploration and development can be expected to draw more people into the area.

3. Conclusion

a. Capability to Resolve Issues and Concerns

All issues and concerns can be dealt with by applying them to specific areas of land. In order to be responsive to the various concerns, we must apply appropriate fire management practices to the different habitat types and land classifications on the Forest. It will never be possible to totally eliminate the conflict between those who would have us suppress all fires and those who advocate wide spread use of prescribed and natural fires for management purposes.

b. Need to Change Management Direction

To accomplish long range goals and objectives, fire management considerations should be made a part of timber harvest planning. It is not realistic to think that we are going to have any significant effect on the accumulation of natural fuels with fire management funded fuels reduction projects. The only practical way to break up large blocks of natural fuels is to arrange cutting units in such a way as to create continuous fuel breaks. This, together with cleanup of activity fuels and linking together cutting units with shaded fuel breaks, could go a long way toward reducing damage from wildfire.

The need for fuels treatment of pre-1980 activity fuels will diminish with time and improved current project fuels treatment.

Lands

Current Situation

In Table II-20, effort has been made to avoid layered, or duplicate listing for the various acreage of classified net Salmon National Forest System lands considered unavailable for resource outputs or public use.

In considering lands available for disposal the broad category areas are designated in Table II-21. There are also small isolated tracts of National Forest System land, created by surrounding patented mining lands that are available for disposal. These areas are recognized in the vicinity of Gibbonsville and Blackbird Creek. There are several patented homesteads within the Forest, where a narrow strip (usually 33 feet wide) of National Forest System land bisects the private land. These strips are available for disposal, if situated outside of areas where consolidation of land ownership is in the public interest. The only National Forest System lands which may meet criteria for community expansion are at Gibbonsville and Salmon. Other National Forest System lands which may be considered for disposal because of inaccessibility or serving a better public purpose if in other ownership are included in the broad categories of Table II-21.

The existing utility corridors are considered unsuitable for disposal, except that the telephone corridor along the Salmon River between North Fork and Colson Creek should be considered for eventual phaseout. The Frank Church--River of No Return Wilderness and Classified Recreation River area are not available for new utility corridors. The Beaverhead and Lemhi Mountain ranges are assumed not available for utility corridors, except for the Bannock Pass/Rail Road Canyon/Eightmile Creek (long range BPA route) and/or Tendoy/Hayden Creek areas, based on a clear showing of public need and benefit. Minor utility corridors will only be considered on other areas of the Forest after a clear showing of need.

TABLE II-20 - Salmon Forest Land with Limitations or Restrictions on Management

Category	Units	(Total Forest Units)	Acres*
FC-RONR Wilderness	1	1	426,114
Wild & Scenic River (Outside FC-RONR)	1	1	11,340
FPC Classification (Panther/Napias Cr. Only)	1	3	10,300
FPC Projects	3	3	120
Roadside Zone	1	1	510
Watershed & Coop Agreement With Salmon City, Dump Cr. Sites	3	3	13,615**
Administrative Sites (Outside FC-RONR & Rec. River)	49	61	2,750
Recreation Sites (outside FC-RONR & Rec. River)	34	71	1,920
Mineral Material Sites	1	1	15
Restricted Placer Mining In Drainages Outside FC-RONR (Yellowjacket-Meyers Cove)	2	2	1,610
Surface Rights Mining Claims (Located on all Districts)	180	180 (more or less)	3,985
Physical Land Occupancy Easements, Special Uses	252	328	1,090
Purchase Lands (Outside of FC-RONR and Rec. River)			905
Not Accessible Due to Lack of Legal Access			282,000
Mineral Patent Application Lands (Hearing Pending)	1	1	50
		Total Affected Lands	756,324

1/ The table data is developed to avoid duplicating or overlapping classifications from Forest Land Status records and various administrative reports.

* Figures rounded to the nearest 5 acres, land area 9,750 acres. Under existing roads not deducted.

** Area of Salmon City Watershed Co-op Agreement based on area of Mineral Examination for withdrawal application.

TABLE II-21

TABLE TO DEVELOP CURRENT LANDS SITUATION

Land Description or Location	1	2	3	4	5	6	7	8	Legend: + - Yes 0 - No
Recreation River Corridor (No. Fork to Middle Fork)	+	+	+	+	+	+	+ 0	+	REMARKS Management Plans being developed
Adjacent to or in Vicinity of FC-RONR Wilderness (Horse Cr., Panther Cr., Meyers Cove, Yellowjacket Cr. -- except Blackbird Cr.)	+	+	+	0	0	0	+ 0	+	
Salmon River Mountains (Napias Cr., Moose Cr., and east facing slopes to Salmon River)	+	+	+	0	0	0	+ +	+	
Lemhi Range	+	+	+	0	0	+	+	+	
North Fork Salmon River	+	+	0	0	0	0	+ +	+	
Fourth of July Creek	+	+	+	0	0	0	+ +	+	
Beaverhead Mountains (Includes FS., Private)	+	+	+	0	0	0	+ +	+	
FC-RONR Wilderness (Including interest in private land)	+	+	+	+	+	+	+ 0	+	Management Plan being developed
All other Salmon NF lands (except admin. sites outside of NF boundary)	+	+	+	0	0	0	+ +	+	Includes G-P RR lands
Admin. sites outside NF boundary	+	+	0	0	+	+	+ 0	+	

CRITERIA

1. Will a change in the landownership pattern result in a greater contribution to the goals and objectives of the Forest or provide more management options?

2. Will a change in landownership pattern result in more efficient or increased production of goods and services to the public, considering before and after on all lands (public and private) involved?

3. Is an ownership change needed to protect lands from irreversible development which would be environmentally unsound, would diminish the public values on NFS lands, or would otherwise not be in the public interest?

4. Are landownership changes required by law to carry out the Congressional mandates for designated areas such as Wilderness, National Recreation Areas, Wild and Scenic Rivers, and National Parks?

5. Are landownership changes needed to protect areas given special management classification by the Forest Service?

6. Is a change at the current time blocked by Congressional or Administrative direction, pending completion of ongoing studies?

7. Are the NFS lands needed or essential for achieving the goals or objectives of the Forest? If not, can they be managed at a low level of intensity and identified as lands available for exchange?

8. Do the existing NFS parcels and other intermingled or adjacent lands fall within a floodplain, involve endangered species habitat, include cultural resource values, or have the characteristics which limit disposal of NFS lands? Do the NFS parcels present opportunities for protection of public values through acquisition of private land?

There are several recognized negative effects of the current Forest landownership pattern. In cases where private lands are situated in canyon bottoms, both administrative and public use of the National Forest System lands located upstream from the private land may be restricted due to the unwillingness of landowners to grant permanent access. In other cases, private owners trespass across landlines and build structures on National Forest System lands. There is an increase in areas of interior lands being approved and developed for both year long and recreational subdivision, with attendant increase in road use and maintenance expenses. Concurrent with subdivision of interior lands are various requests for "support type" special use permits, for use of areas of the immediately adjacent National Forest System lands. The expense of survey, and field project delays due to required landline and corner location, is a recognized negative effect of the land pattern. Nearly every landline and corner location project discloses some form of trespass on National Forest System lands. Where the conditions meet criteria of the Act, effort will be made to resolve occupancy trespass under Small Tract procedures. Because of the land patterns and existing public roads, we estimate there are 270 road or trail rights-of-way easements to be acquired for the existing Forest road system. Part of the increased cost to purchase road and trail easements is the upward trend in value of area lands influenced by subdivision land sales. Approximately 100 of the total 333 special use permits existing on the Forest result directly from the existing interior land ownership pattern in that they involve special use of adjacent National Forest System land in support to the existing private land (i.e., physical occupancy, access, culinary or irrigation water systems, pasture, etc.). The Forest has need to acquire legal access for roads or

trails leading to blocks of National Forest System land in the Beaverhead and Lemhi Ranges.

One positive affect of the National Forest System land pattern is that over 98 percent of the land area within the administered Forest boundary is National Forest System land.

Table II-20 is for the purpose of understanding the current situation for broad categories of National Forest System lands.

Historical Information

1. Table II-22 displays land exchanges, land purchase, road and trail right-of-way acquisition, and landline location occurring on the Salmon Forest from 1972 to 1981.

TABLE II-22

	Land Exchange Acres			Road & Trail R-O-W Acquisition		Landline Location	Land Purchase
Year	No. Cases	Offered	Selected	No. Cases	Miles	Miles	Acres
1972	2	231.71	476.71	1	4.76	-	-
1973	-	-	-	6	6.7	-	134.52
1974	-	-	-	7	2.17	-	
1975	-	-	-	4	2.22	-	
1976	-	-	-	5	2.61	2.2	
1977	1	17.02	12.94	2	1.01	4.0	
1978	-	-	-	5	3.41	10.0	437.07
1979	-	-	-	7	0.38	37.5	
1980	-	-	-	8	9.90	15.9	.33
1981	-	65.00	65.00	6	2.41	16.5	
10	4	355.73	554.59	57	35.57	86.10	563.26

We estimate a current backlog of 220 right-of-way easements to be acquired for existing roads and trails.

2. Table II-23 displays the kind of uses and number of acres affected for existing special use permits for the entire Forest as of November 11, 1983.

TABLE II-23

Special Use Permits In Force

Kind of Use	Total Cases	Total Uses	Total Miles R/W Length	Total Acres Permitted Area
100 Recreation Uses	78	79	.2	710.4
200 Agriculture Uses	15	17	3.2	691.6
300 Community Uses	3	3	.0	2.0
400 Industrial Uses	26	26	.0	5.2
500 Public Information Uses	2	2	.0	.2
700 Transportation Uses	76	77	161.7	346.2
800 Utilities and Communications Uses	39	40	70.6	325.6
900 Water Uses	87	89	43.8	134.1
Total Number for All Kinds of Use	326	333	279.5	2,215.3

Current Targets 1980-2030

1. Land Purchase and Acquisition

Pending completion of this plan and the Management Plan for all the Frank Church--River Of No Return Wilderness, there are no scheduled purchases of lands or interest in lands, except that pending funds available, consideration may be given to interest in tracts or fee purchase of tracts which come on the market within the Wilderness or the Recreation or Wild River corridor, as needed for public access or management purposes or L&WCF purchases for wildlife habitat. Interim consideration may also be given to purchase of exterior lands needed for administrative site purposes.

2. Landline Location

Pending future occurrence of specific project needs, it is our best estimate that landline location will continue at a rate of 15 to 20 miles per year. At this schedule the majority of interior common property line will be completed by 2020. The priority for work must include common property line where private land development is occurring and areas where land exchange or adjustment is planned.

3. Special Uses

Concurrent with increased development and subdivision of interior private lands and a general increase in use of National Forest System lands by an increasing local population, it is

expected that the total number of special use cases will increase at a rate of 3 percent per year during this plan period.

Current Direction

Concerning land adjustment, current direction is to develop both District and Forest land adjustment plans. In the interim and pending available funding, the only acquisitions considered are targets of opportunity cases where lands located in priority interest areas come on the market, or are directly offered to the Forest. Small Tract procedures are being used to resolve long standing land occupancy previously authorized by special use permit.

Concerning both landline location and right-of-way acquisition the current direction is to meet the location and access needs to accommodate the field projects, as in the Five Year Timber Sale Plan, etc. Under current direction administration of special use permits is at a low level.

Condition of Forest if Current Direction Continues Until 2030

It is expected that the Forest will complete the following land adjustment, landline location, rights-of-way acquisition for existing roads and trails, and issue additional special use permits by 2030:

Land Exchanges	16 cases	700 acres
Land Purchases	10 cases	1,000 acres
Small Tract Cases	50 cases	55 acres
Landline Location	15 m/yr	735 mi.
R-O-W Acquired	6 cases/yr	Existing cases completed by 2030
Special Use Cases	Increase and stabilize at about 600 cases total	

Facilities and Corridors

Road Development

1. Objective - To build a system of permanent roads to serve the Forest resources and users. Ideally the roads would be planned so that the resources can be served with minimum mileage and environmental impact and built so that future maintenance and reconstruction would be minimized.

2. Past Practices - On timber sales, the Forest has planned the roads and the logging companies have built them. This has added approximately 50 miles of permanent road to the system annually.

   Occasionally roads are built with U.S. Treasury funds either by the Forest Service or under direct Forest Service supervision. During the 1960's and early 1970's there were frequent projects

of this type. All but a few involved reconstruction or relocation of existing arterial/collector roads.

Other road construction (mainly for mining) has been planned and built by users with the Forest monitoring the activity. These roads (approximately 10 miles annually) have added very few miles to the permanent road system.

3. Present Situation - There are 1,835 miles of existing Forest Development road on the Salmon National Forest. A breakdown of the road standard shows the following:

Paved road (2 lane)	- 19 miles
Improved gravel	- 36 miles
Graded and drained	- 1,265 miles
Primitive	- 515 miles

There are an estimated 1,100 miles of nonpermanent road visible throughout the Forest.

4. Future Outlook - It would take 2,000 to 2,500 miles of additional road to access all the lands currently planned for timber management. At the current rate of road development this would take 40 to 50 years.

Financing of road development by means of timber sales does not appear likely to continue at the same rate. The cost per mile increases as the terrain becomes more rugged, while the financing available decreases.

Road Management

Road Management includes: maintenance, signing, closures, and obliteration.

1. Past Practices - Traditionally, Forest roads have been open to public use with minimum restrictions. Use had only been discouraged (sometimes prohibited) during high fire danger, or during spring breakup. Commercial users (loggers and miners) were required to maintain those roads they hauled over. Other roads were maintained on an "as needed" basis, and maintenance crews were able to complete the necessary work. Signs were maintained and updated at irregular intervals. Road obliteration was left to nature.

In the past 10 years there has been greater concern about wildlife habitat and extensive road closures.

2. Present Situation - The present maintenance goals for the existing road system are:

Suitable for passenger cars	Level 3, 4, 5	- 750 miles
Suitable for trucks	Level 2	- 620 miles
Closed to traffic	Level 1	- 465 miles
Temporary road - no maintenance - estimated		1,100 miles

These goals are based on the expected use of the area served. Maintenance has not been able to meet these goals consistently, particularly when a road needs some reconstruction before it can be maintained to standard (e.g., Lower Salmon River Road).

3. Future Outlook - As mileage increases, the third category (closed to general public) will increase. There is an opportunity to use seasonal closures to keep traffic off the roads during the spring, when the worst rutting occurs.

There is strong likelihood that commercial users other than loggers and miners will be assessed for the maintenance costs of the roads they use. This could help high use recreation roads.

Obliteration will still be left to nature.

Bridges

1. Past Practices - Bridges or fords have been used on trails at stream crossings because small trail bridges are inexpensive and easy to build. On roads, however, culverts were used on the small and intermediate streams because they are less expensive and allow a straighter road. Bridges were only built on the major stream crossings.

Presently, larger trucks and heavier equipment are more commonly used in the Forest than was the rule in the 1950's. Most of the earlier bridges have proven structurally inadequate for the heavier loads. Thus a program was started to replace or strengthen the existing bridges, and to build all new bridges to highway load standard.

Another program affecting bridges started in the sixties when the Forest became very aware of the value of the fisheries resource. Culverts generally form a barrier to fish passage, so bridges were used over intermediate streams important to fish, even though culverts were cheaper. Lately a culvert replacement program has started.

In the past five years there have been five new bridges and four replacements.

2. Present Situation - There presently are, on the inventory; 65 road bridges, (63 structurally adequate) 23 major culverts (on roads), and 14 trail bridges.

3. Future Outlook - It is expected that one or two new bridges (or major culverts) will be installed each year. In 1981 two major culverts were installed that will allow fish passage; these were more expensive and difficult than regular culverts, but still less expensive than equivalent bridges. This trend will continue.

Replacement or strengthening of structurally inadequate bridges will continue.

Replacement or modification of existing culverts, to allow for fish passage will continue at the rate of one per year for the next five years.

Buildings

1. Past Practices - As road access to the Forest improved, and vehicles became more rugged and efficient, the trend developed to concentrate buildings at large administrative sites, and drive long distances to work in the Forest. The administrative sites were located in population centers wherever possible. Thus there are numerous buildings scattered throughout the Forest that have been used since the early days.

2. Present Situation - The Forest owns and maintains 33 buildings at the five administrative sites; this includes 12 residences. Scattered about the Forest are 58 other buildings, including 17 lookouts and 10 residences. In addition to this are 17 travel trailers used for temporary residence within the Forest.

The largest building, the Supervisor's Office, does not belong to the Forest Service, but is leased.

All buildings, but one, are primarily for Forest administration, though there is tacit approval for public use of some remote buildings when they are not in use. There is one building (at Corn Creek) that serves as a visitor Information center.

3. Future Outlook - The present Cobalt Ranger Station is outgrowing the space available at the site. Two options were; (a) move the Ranger Station to Salmon and use the present site as a work center, and (b) move the entire administrative site to another location. The final decision was to retain the present site, and move some of the facilities (residences) to another location.

Airfields

Primarily used for fire control. Two kinds: landing strips (for fixed wing aircraft) and helispots (for helicopters). The importance

of landing strips has diminished in the past 10 years, and helispots have become more important.

1. Landing Strips - At present the Salmon National Forest maintains only one landing strip, the Bernard Airstrip. It is located in the Wilderness. It can be used only by small planes under favorable conditions. The Forest occasionally pays a landing fee to use a nearby private landing strip, the Flying B Airfield. The Forest also uses two municipal landing strips, at Salmon, and at Leadore.

   Another landing strip was constructed in the 1930's at Hoodoo Meadows, on the edge of the Wilderness, near the Bighorn Crags. It was decided to abandon this landing strip.

2. Helispots - A helispot is a small (avg. diam. 50 ft.), relatively flat area that has been cleared of trees and brush. It is often marked to be easily identified from the air. There are approximately 170 of these on the Salmon National Forest. Maintenance work on these is performed by fire crews during periods of moderate fire danger.

   A helispot with full facilities for refueling, aircraft maintenance, and safety is called a Heliport. There is one heliport on the Salmon National Forest, at Indianola.

   Future direction is to fully maintain and inventory the most used helispots, and to create new ones as needed.

Corridors

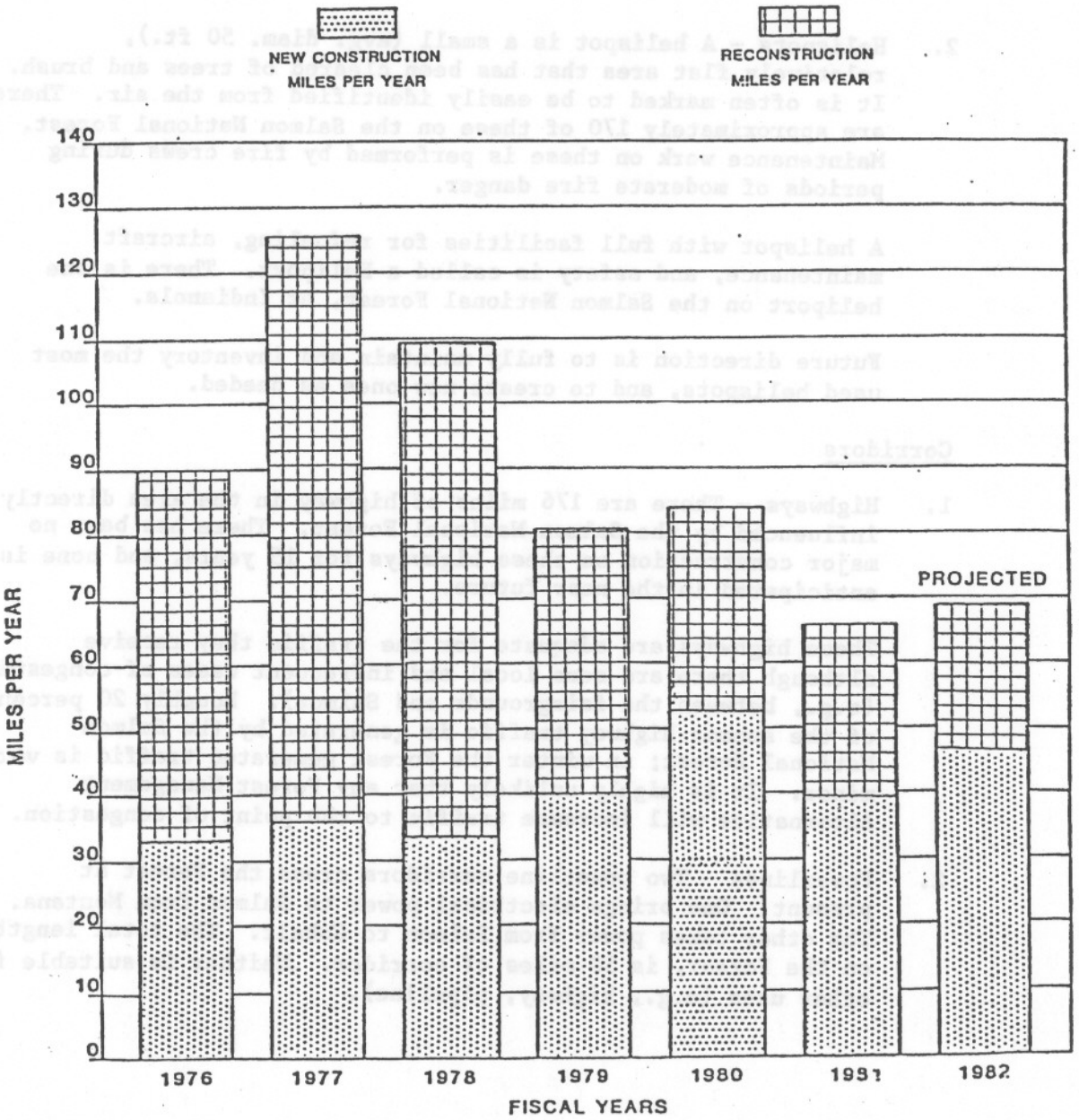
1. Highways - There are 176 miles of highway in the area directly influenced by the Salmon National Forest. There has been no major construction on these highways for 15 years, and none is anticipated in the near future.

   These highways are adequate for the traffic they receive although there are some local and infrequent cases of congestion (e.g., between the fairgrounds and Salmon). Roughly 20 percent of the summer highway traffic is generated by the Salmon National Forest; in winter the Forest generated traffic is very minor. It is highly unlikely that any Forest Management Alternative will increase traffic to the point of congestion.

2. Powerlines - Two powerline corridors cross the Forest at present. One brings electrical power to Salmon from Montana. The other takes power from Salmon to Cobalt. The total length, on the Forest, is 30 miles of corridor. Neither is suitable for other uses (e.g., highway, pipeline).

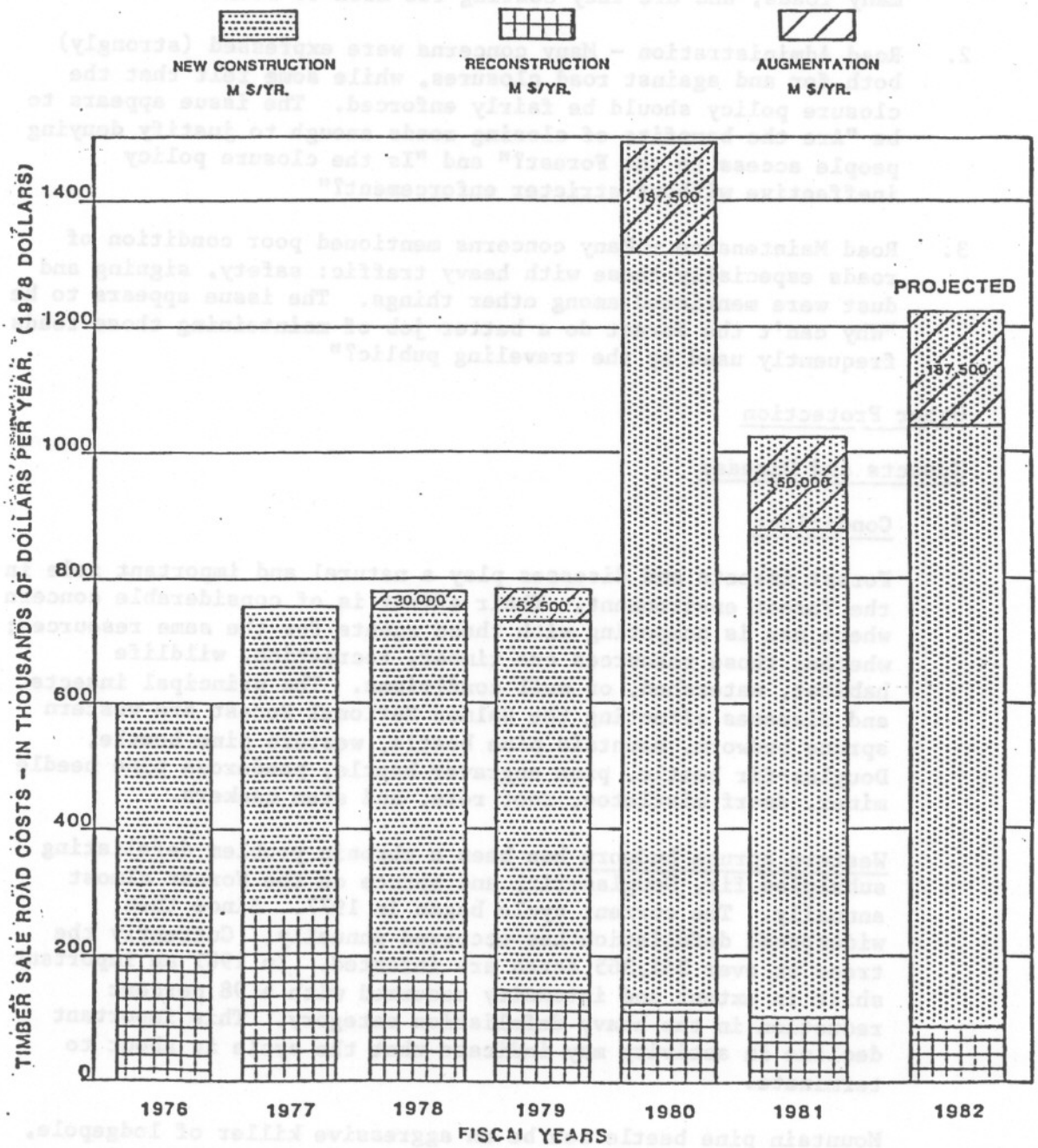
GRAPH NO. 1

ROAD MILEAGES - TIMBER SALE



GRAPH NO. 2

ROAD COSTS - TIMBER SALE



Issues and Concerns - Planning Issue No. 4, Transportation System Management is the only issue relating to facilities. It includes three Primary Issue areas: (a) the level of planning and design which relates to Road Development; (b) road administration which relates to road closure policy; and, (c) the level of road maintenance.

1. Planning and Design - The concerns most frequently expressed were "too many roads", and roads built to higher standard than necessary"; a few concerns expressed the opposite views. The issue appears to be "Does Management of the Forest require so many roads, and are they costing too much to build?"

2. Road Administration - Many concerns were expressed (strongly) both for and against road closures, while some felt that the closure policy should be fairly enforced. The issue appears to be "Are the benefits of closing roads enough to justify denying people access to the Forest?" and "Is the closure policy ineffective without stricter enforcement?"

3. Road Maintenance - Many concerns mentioned poor condition of roads especially those with heavy traffic: safety, signing and dust were mentioned among other things. The issue appears to be "Why can't the Forest do a better job of maintaining those roads frequently used by the traveling public?"

Other Protection

Insects and Disease

1. Conditions

Forest insects and diseases play a natural and important role in the Forest environment. Their effect is of considerable concern where man is competing with these agents for the same resources; whether those resources are timber, recreation, wildlife habitat, watershed, or soil conditions. The principal insects and diseases affecting the Salmon National Forest are western spruce budworm, mountain pine beetle, western pine beetle, Douglas-fir beetle, pine engraver beetle, ponderosa pine needle miner, dwarf mistletoe, root rots, and stem cankers.

Western spruce budworm has been a chronic problem defoliating subalpine fir, Douglas-fir, and spruce on the Forest almost annually. The current cycle began in 1977. Since then, widespread defoliation has occurred annually. Currently the trees on over 241,365 acres are infested. In 1981 an important shift in extent and intensity occurred with a 98 percent reduction in the heavy defoliation category. This important decline in activity may indicate that the cycle is about to terminate.

Mountain pine beetle can be an aggressive killer of lodgepole, ponderosa, and whitebark pines. Western pine beetle only

infests and kills ponderosa pine on the Forest. Recently the insects have not been a problem on the Forest, but conditions can develop where the beetles preferentially attack and kill the larger diameter trees in the stand. In the late 1920's and early 1930's an outbreak of mountain pine beetle which claimed a large segment of the lodgepole component occurred on the Forest. Given the years necessary to grow trees to a susceptible size, conditions may once again be developing which favor a mountain pine beetle infestation.

Annually, old growth Douglas-fir on the Forest has been killed by Douglas-fir beetle. At times, populations reach high levels in localized areas and kill large numbers of trees. Historically, populations have been active Forestwide, especially in the Panther Creek and North Fork of the Salmon River drainages. In the past, as many as 300 trees per group have been killed. Presently Douglas-fir beetle is causing scattered, light mortality, having claimed less than 100 trees Forestwide in 1981. This condition can be quickly aggravated by windthrow or other natural damage.

The pine engraver beetle or Ips sp. is closely tied to second growth ponderosa pine stands. It has been troublesome Forestwide. Pine engraver usually kills groups of trees in proximity to slash created by snow breakage, windthrow, or man's activities. In the past several hundred trees were killed annually, usually in conjunction with timber harvest or thinning operations. In 1981, approximately 50 tree deaths were attributed to Ips during aerial surveys.

A needle mining moth, Coleotechnites sp., has been defoliating ponderosa pine in the recent past. This minute insect feeds within single needles causing the foliage to turn brown. Pines in the Carmen, Lick, Wagonhammer, Silverlead, and Powder Gulch Creek drainages have been centers of activity. In 1981, approximately 1,900 acres of pine were defoliated on the Forest. Little is known about the population dynamics of this moth; therefore, future defoliation predictions are difficult.

Dwarf mistletoes, Arceuthobium spp., are small, parasitic plants that infect virtually every species of conifer in the Intermountain West. Recognition of their importance in Forest management planning is necessary because this parasite/host relationship does have debilitating effects on current stands of trees and can have devastating effects to future stands.

Two dwarf mistletoes are of concern on the Salmon National Forest: Arceuthobium americanum on lodgepole pine and A. douglasii on Douglas-fir. A foliage disease commonly found on ponderosa pine, Elytroderma deformans, mimics some of the effects of dwarf mistletoe (witches' brooms).

The major effects of dwarf mistletoe parasitism are growth reduction and, in cases of severe parasitism, direct mortality.

Trees can also be weakened sufficiently to be susceptible to beetle attacks. Other detrimental effects include reduced cone production and lower seed viability, lower lumber quality, and hazard. A 1978 dwarf mistletoe survey on the Salmon indicated the following incidence and growth loss projections.

TABLE II-24

Host	Dwarf Mistletoe Occurrence	1978 Survey Incidence	Projected Growth Loss
Lodgepole pine	Widespread on 166,500 acres of host type	59%	18.3 cu ft./ac./yr. in infected stands; 3,054,725 cu ft/yr. on Forest as whole (about 12,000,000 board feet)
Douglas-fir	Widespread through the host range, but localized on Cobalt and Leadore Ranger Districts	49%	Not available, but locally severe enough to account for an estimated loss of 2,500,000 cu ft/year (about 10,000,000 bd. ft)
Ponderosa pine	North Fork Ranger District	0% (Reported to be in area by Hawksworth)	Insignificant

Management of dwarf mistletoe is best served by preventative control techniques aimed at reducing the spread of the parasite. These techniques are established, site-specific silvicultural practices that utilize knowledge of the biology of mistletoes to allow manipulation of stand structures and thus minimize future losses.

Information about root diseases and stem cankers is scant on the Salmon. Fomes annosus has been found on the Salmon and North Fork Ranger Districts in ponderosa pine plantations. The fungus survives in stumps and, therefore, poses a threat to regeneration. Conditions that stress the trees (dense stocking, offsite planting, or droughty soils) favor development of the disease.

An assortment of stem and branch cankers parasitize both ponderosa and lodgepole pines on the Salmon. These include Comandra rust, Stalactiform rust, and western gall rust. Selecting against trees infected with cankers during normal stand entries will reduce the as yet unquantified effects of

these diseases that are scattered throughout the host range of both pine conifers.

2. Current Management Direction

Forest management currently provides for limited measures of Integrated Pest Management (IPM) to prevent impacts from Forest pests.

Preventative measures currently being applied are primarily silvicultural methods that reduce stand susceptibility. Basically, they can be grouped into the following practices.

a. Utilize silvicultural methods that reduce damage from dwarf mistletoe such as clearcutting, timely removal of infected overstories, species diversification and use of reinvasion barriers.

b. Utilize silvicultural methods that reduce stand susceptibility to bark beetle attacks such as preventing stagnated conditions, species diversification, and application of risk guides, removal of susceptible trees, and season of logging control.

c. Utilize silvicultural methods that reduce stand susceptibility to spruce budworm such as even aged management, timely overstory removal, species diversification.

Other resource concerns for visual resource management and wildlife habitat needs are sometimes in conflict with the best I&DC practices. These situations are evaluated on a project basis. Vegetative management plans for recreation sites consider hazard tree management and maintenance of desirable vegetative cover to prevent insect and disease outbreaks.

3. Predicted Effects of Insects and Disease if Current Management Direction Followed

Because of insect and disease population dynamics, weather patterns, and stand conditions, current management has resulted in little significant change in overall pest conditions. If current management is continued for the next 50 years, conditions will be much the same as they are presently. Inventories, examinations, and surveys have identified currently available resource values and form the basis for future projections; thus Forest insect and disease effects have already been incorporated into the current and future resource availability.

Again, largely due to insect and disease population dynamics, weather patterns, and stand conditions, short lived devastating resource degradations due to insect and disease infestations will recur in the future.

4. I & DM Need for Change on the Forest

An integrated pest management program can be incorporated into the Forest Plan fairly easily if the needed management emphasis are displayed in prescriptions, standards and guidelines, and management direction. Direction has been prescribed in the Forest Service Manual, Regional Guide, and the National Forest Management Act.

The primary emphasis for insect and disease control will be prevention. Proper silvicultural methods can accomplish much in the way of reducing timber stand susceptibility and damage.

Currently, about 42-50 thousand dollars has been included in the budgeting process for the Salmon for prevention and suppression efforts. Prevention projects will receive the highest priority during the planning period.

Predator Control

Due in part to the relatively low numbers of sheep permitted to graze on the Salmon National Forest, there is not an intensive predator control program. For example, in 1980 there were 128 sheep losses attributed to predators (approximately 0.4% of the number permitted to graze). The basic intent of the Predator Control Program is to provide for effective control of offending individuals or local populations while minimizing harm to other wildlife and safeguarding the public.

Following coordination with the Forest Service and Idaho Fish and Game Department, control work is normally conducted by the Fish and Wildlife Service. By agreement, an annual meeting is held to assess predator control needs and to develop an annual operating plan. The plan can be amended to provide for emergency situations.

Chemical toxicants have not been used in the predator control program since the passage of Executive Order 11917 in 1976. More recent amendments allow for their use on a limited basis; however, Regional Forester approval is required.

Noxious Weeds

Noxious weed control on the Salmon National Forest has been a continuing program directed at reducing the backlog of identified infestations and arresting the spread of classified noxious weeds. Although there are no formal cooperative agreements for weed control with Lemhi County, there is considerable coordination and cooperation with adjacent land owners and other management agencies. Noxious weed control efforts are programmed each year, by District, through a site specific environmental assessment. Whitetop, Canada thistle, musk thistle and spotted knapweed have been the principal species targeted for control in recent years.

The concept of integrated pest management, employing a spectrum of natural, biological, chemical, and mechanical control measures is being encouraged. The use of one or more methods, often in combinations, offers the opportunity to conduct an aggressive noxious weed control program integrated with the protection and management of other Forest resource values. By policy, "control efforts should be financed by the functional activity or program creating the conditions conducive to weed encroachment."

Human and Community Development

The Salmon National Forest currently operates a base level Human Resource Program of approximately 1.25 person years of participation annually. This participation is accomplished as authorized under the Older American Service Employment Act and the Volunteers to America Act.

Additional Human Resource Program participation is contingent upon available funds as appropriated under the Job Training Partnership Act (JTPA), the Higher Education Act, the Youth Conservation Corps Act, etc. To a large extent, the size and person years of participation by the Forest in Human Resource Programs, through any of these acts, is determined by Congressional budget action, which in turn, is based on Congress' response to National economic conditions, National employment data, and the current political climate.

E. SUMMARY OF THE NEED FOR CHANGE ON THE FOREST AS A WHOLE

Needs for change that were identified fall generally into two categories: those dealing primarily with allocation conflicts and those dealing primarily with goals or standards as they relate to available or anticipated budget levels.

Changes identified in Recreation deal primarily with program emphasis. At current levels, the desired amount of maintenance of existing facilities, both recreation facilities and trails, is not being done. This problem will compound over time as use increases. This will necessitate either reducing the number of facilities so that those remaining can be maintained at a higher level or placing greater budgetary emphasis on the total existing program. An allocation problem exists in maintaining opportunity in the semi-primitive end of the spectrum. As more area is accessed for timber harvest, the nonroaded base is reduced resulting in a need for increased emphasis on providing semi-primitive type opportunities.

Wildlife and fisheries changes identified are centered around the ability to provide habitat sufficient to meet State Fish and Game Department population goals. As projected, the current management direction would not provide the habitat quality needed to meet big

game goals after the first decade. This will necessitate changing the objective of meeting State goals or changing the amount and scheduling of timber harvest and road construction.

Other wildlife needs are acceleration of anadromous fish habitat enhancements, rehabilitation of aspen stands, and providing habitat for species that are planned for reintroduction to unoccupied ranges.

Changes needed in timber management are related primarily to the effects of timber harvest on wildlife and fisheries. Projected levels of harvest exceed that which would allow the attainment of State big game goals. Meeting these goals would necessitate a reduction of timber harvest levels.

Additional emphasis needs to be placed on implementation of grazing systems and streambank improvements to meet current policy and direction in some riparian zones.

At current levels, meeting watershed restoration backlog targets would not occur. Increased funding levels or reduction in the goals would be necessary. Also needed is an increase in the amount of inventory, monitoring, and training.

Changes needed in current cultural resource management include increased emphasis on completing the Forest survey by 1990 or extending the target date. A change will be needed in the protection of sites and in the restoration, stabilization, or removal of structures. Increased emphasis on cultural resource evaluation and protection should also be considered outside wilderness.

An increased emphasis will need to be placed on coordination of natural fuels management with timber harvest planning. The need for treatment of pre-1980 fuels will decrease.

An increase in the level of land adjustment activity will probably be needed.

Road management changes include the need for a more effective road and area closure policy both to reduce maintenance costs and to enhance habitat effectiveness for wildlife. It is desirable to pursue efforts to transfer some high use roads to the public road system as Forest highways or County roads. As the road system mileage increases, it is more and more difficult to maintain them at desired levels. As with recreation, it will be necessary to reduce the facilities in order to maintain the remainder to a higher level, or to reduce the level of maintenance on the total system.

The current benchmark modeled solution underestimates the miles of road actually needed. Purchaser credits and augmentation dollars needed will be greater than the expenditure amounts shown in the current benchmark. This is occurring because of environmental and other resource objectives, i.e., visual, forage/cover and sedimentation which require harvest dispersal whenever possible. Environmental constraints will necessitate accelerated road

construction during the first two decades and decreasing road construction during the last three decades. This need for change will be handled in the alternatives.

Change needed in pest management is more emphasis on prevenion through proper silvicultural methods.

III. PLAN RESPONSES TO ISSUES, CONCERNS, AND OPPORTUNITIES

This chapter briefly describes how the Forest Plan will respond to and address the major issues, concerns, and opportunities (ICO'S) identified during the planning process. Long-range policies, goals, and objectives are also briefly described in this chapter.

PLANNING ISSUE 1. Mineral and Energy Resources

The Forest Service objective is to manage locatable and leasable minerals in a timely manner and to integrate the exploration, development, and production of mineral and energy resources with the use, conservation, and protection of other resources. Direction, standards, and guidelines for the issuance of lease applications and approval of operating plans have been established and are found in Chapter IV of this Forest Plan. A total of 426,114 acres in the Frank Church--River of No Return Wilderness will be withdrawn from mineral entry and leasing. There will be additional acres of administrative withdrawals from mineral entry that could total approximately 25,000 to 30,000 acres. Management areas featuring semi-primitive recreation opportunities will be open for entry and leasing.

PLANNING ISSUE 2. Wildlife and Fish Habitat Management

Habitat for big game species will be managed to provide for increases over current populations. Motorized travel will be limited when necessary to maintain wildlife habitat quality. Habitat for old growth-dependent species will decrease in nonwilderness areas, but will not fall below that necessary to support minimum viable populations. Selected areas of key elk summer range and key big game winter range will be managed to enhance habitat potential. Fish habitat will be coordinated with other Forest resources through controlling and scheduling sediment producing activities. Habitat quality will be managed to meet State fish species management goals and will comply with State water quality standards. Other aspects of fish habitat coordination with other resource uses will be addressed through application of management requirements for activities that occur within riparian areas. Fish habitat improvement projects will be scheduled to enhance fish production on the Forest. A concerted effort will be made to assist and complement other Federal agencies and interest groups in meeting anadromous species goals and objectives.

PLANNING ISSUE 3. Timber Management-Quantity

The allowable sawtimber sale quantity will be 21.1 MMBF annually in the first two decades. It will rise to 25.7 MMBF in the third through the fifth decades. Allowable harvest in the first decade will occur on approximately 4,012 acres.

PLANNING ISSUE 4. Transportation System Management

Planning and design will be determined by the needs. New road construction will primarily be for timber harvest areas. Steepness of slope will determine road spacing. Where road construction costs exceed the additional costs of helicopter yarding, no roads will be planned. Road design will be determined by the type(s) and amount of use.

All newly-constructed roads will be closed when not actually being used for timber harvest, or related timber management activities, except those roads left open for other needs as determined through the NEPA process. Additional road closures to protect wildlife will be outlined annually in the Salmon National Forest Travel Plan.

Roads used by timber purchasers to haul timber will be maintained by the timber purchaser during hauling. Otherwise, the level of maintenance will be limited by the Annual Road Maintenance budget, with priority going to roads receiving high recreation use. Wherever possible, road users will be assessed for the road maintenance funds.

PLANNING ISSUE 5. Recreation

Operation and maintenance emphasis will significantly increase at all developed sites. All developed sites will be managed to standard during the managed season, and quality of experience will be emphasized. Construction and reconstruction will be undertaken on several new and existing sites, including campgrounds, picnic grounds, boating sites, and trailhead facilities. There will be a gradual improvement in both quality and quantity of developed sites over the planning period.

Primary emphasis for trail maintenance will be in areas featuring semi-primitive recreation opportunities, designated wilderness, and Nationally designated trails (e.g., Historic, Scenic, Recreation), although most system trails will be maintained in a usable condition.

A wide range of dispersed opportunities will be provided including Roaded Natural, Semi-Primitive Motorized, Semi-Primitive Nonmotorized, and Primitive.

ORV management is considered adequate and will continue through the Forest Travel Planning process which is updated as needed.

Winter sports opportunities will continue to be provided through development of managed cross-country ski and snowmobile trails.

PLANNING ISSUE 6. Watershed Management

Watershed conditions and water quality will be maintained such that downstream beneficial uses are protected. Short term decreases in water quality will be compatible with Fisheries goals, as sediment delivery will be limited in third order and larger streams to meet Fisheries' objectives. Watershed restoration projects totaling 600 acres will be completed by the year 2000. Water quality will improve in the restoration project areas. Consumptive and nonconsumptive Federal Reserved Water Rights as defined by the Organic Administration Act of 1897 will continue to be quantified. Water rights claims for all nonreserved water will continue as new uses are developed.

PLANNING ISSUE 7. Timber Management-Treatment Methods

In the first decade, 8.1 million board feet per year will be harvested by clearcut on approximately 1,480 acres annually. Shelterwood methods will be used to harvest 12.5 MMBF from 2,680 acres annually and selection will be used to harvest approximately 0.5 MMBF from 100 acres annually. Intermediate harvests will produce less than 100,000 board feet annually. Timber stand improvement, primarily precommercial thinning, will be done on approximately 1,000 acres per year.

PLANNING ISSUE 8. Rangeland Resource

Domestic livestock grazing will total 55,000 AUM's. Those areas closed to grazing for watershed protection and recreational purposes will remain closed. Enhancement of riparian areas in a deteriorated condition will be emphasized. Conflicts between livestock grazing and terrestrial wildlife habitat will be slightly reduced. Rangeland in deteriorated condition will be improved to within 20 years. Dependent local ranchers and community stability will be maintained.

PLANNING ISSUE 9. Insect and Disease

Management of insects and disease is integrated into timber management prescriptions. The prescriptions employ harvest and silvicultural techniques which tend to control the spread of insects and disease and minimize their effects in stands where present.

PLANNING ISSUE 10. Firewood

Firewood availability is related to the level of timber harvest and the amount of roads that remain open for post-sale use. Timber harvest residues are valuable firewood and the roads related to harvest allow access to this wood as well as to other suitable material that does not result from harvest activities. About 6,100 cords of fuelwood will be available annually for personal and commercial use.

PLANNING ISSUE 11. Visual Resources

Visual quality will be emphasized in areas viewed from Sensitivity Level 1 and 2 travel routes. The Visual Quality Objectives for this Forest Plan will be:

Category	Acres Under Forest Plan	Acres Change From Present Inventory
Preservation	426,004	No Change
Retention	191,906	- 983
Partial Retention	480,941	- 9,595
Modification	451,719	- 138,375
Maximum Modification	226,424	+ 148,953

By the end of the planning period, approximately 24 percent of the Forest will be preserved in a natural condition, 62 percent will appear essentially natural, and 14 percent will appear to be modified by man's activities.

PLANNING ISSUE 12. Management of Undeveloped Areas

Emphasis on dispersed area management will increase. All areas featuring semi-primitive recreation opportunities (approximately 338,300 acres) will be managed to standard. The quality of experience in dispersed areas will remain generally high.

Within the Frank Church--River of No Return Wilderness, the river corridors and the Big Horn Crags will be managed to standard, with the remainder of the wilderness managed at less than standard. The quality and integrity of designated wilderness will remain generally high. No new wilderness areas are proposed.

PLANNING ISSUE 13. Community Stability

The forest influences community stability primarily through outputs from National Forest System lands that are related to timber, grazing, and recreation-related activities. Timber and grazing outputs will be provided at a level which will allow the continuation of industries dependent on those outputs. Outputs will be provided in dispersed and developed recreation activities at levels which will meet expected future demand from recreationists and recreation-related industries. Habitat will be provided to meet State goals for anadromous fisheries in most drainages.

PLANNING ISSUE 14. Pesticides and Herbicides

Noxious weeds will be controlled as needed to protect and enhance the value of other resources and to comply with State law. A sufficient amount of acreage will be treated to ensure the eradication of new infestations, prevent the spread of existing infestations to adjacent lands , and gradually eliminate existing infestations. Integrated Pest Management (IPM), the concept of using interdisciplinary expertise to plan for and implement a control program using a combination of biological, mechanical, chemical and preventive management will be emphasized.

PLANNING ISSUE 15. Fire Management

Appropriate suppression response will be made on all wildfires on all management areas. Pre-suppression and fuel abatement activities will be carried out where appropriate and as possible within budgetary limitations. Intensity of suppression activities will be weighed against cost of suppression and potential for resource damage. Fire management within Wilderness will include the use of fire to restore and perpetuate natural ecosystems.

PLANNING ISSUE 16. Timber Utilization

Timber utilization requirements will be subject to change based on changes in demand. Demand as a function of species and piece size will be monitored and utilization standards will be adjusted accordingly.

PLANNING ISSUE 17. Threatened and Endangered Species Habitat Management

No direct T&E species habitat improvement projects are scheduled. Section 7 consultation for proposed projects will be initiated as necessary, and no actions will be authorized or conducted if judged likely to jeopardize the continued existence of any Federally-listed species or designated critical habitat.

PLANNING ISSUE 18. Riparian Management

Management of Forest riparian areas will comply with NFMA direction. Forest-wide management requirements will govern the types and amounts of resource management that can occur within riparian areas. Resource use and development will not be excluded, but costs and controls associated with resource activities within riparian zones will be higher.

PLANNING ISSUE 19. Lands Ownership

Land ownership acquisition and disposal will be done under guidelines of the Salmon National Forest Long Range Land Ownership Adjustment Plan. Small tracts disposal will average three or more cases per year. Landline location surveys of common property boundaries will average more than 15 miles per year. Acquisition of private lands or interests in lands within the Recreation Segment of the Salmon River corridor will average 68 acres per year. Land exchanges will average 55 acres per year. Mineral withdrawals will not be made for municipal watershed areas. Acquisition of right-of-way easements for existing roads and trails will average 14 to 16 acres per year if funded.

PLANNING ISSUE 20. Special Areas

There is one established Research Natural Area (RNA) on the Forest (Gunbarrel). Protection against inappropriate encroachment on existing conditions will be provided. The Forest will continue to assess the opportunities available to help meet National network objectives, and will formally recommend establishment of suitable RNA's. Potential RNA's will be managed to protect research values pending formal study and establishment.

The Lemhi Pass National Historic Landmark will continue to be managed so as not to impair the historic values of the site.

A segment of the Salmon River has been determined eligible for potential addition to the Wild and Scenic Rivers System. The portion of the segment managed by the Salmon National Forest is from North Fork upstream to the Forest boundary in the vicinity of Tower Creek (approximately nine miles).

PLANNING ISSUE 21. Special Land Uses

The number of nonrecreation special use permits will increase at three percent per year and eventually stabilize at about 600 total permits. Unless it is clearly in the public interest, new permits will not be issued for uses that can reasonably be met on private lands or other Federal lands. Several new Federal Energy Regulatory Commission hydroelectric applications are under consideration and may be authorized during the Plan decade.

PLANNING ISSUE 22. Law Enforcement

Traditionally, law enforcement needs have been minor. In recent years, this has been changing. With sustained, increased use of the Forest by the general public, there has also developed a need for the expansion of the law enforcement program. An effort has been made to ensure that select Forest Service employees receiving law enforcement training will deal effectively with the ever-increasing number of law violators. This program will have to be expanded or intensified during the coming years, dependent on funding and manpower, to keep pace with the increasing needs and to meet Forest law enforcement requirements. In general, law enforcement will focus on criminal activities such as theft or violations of established Federal regulations. The Forest will continue to utilize cooperative law enforcement with local law enforcement agencies to assist in maintaining law and order, and public safety.