PREFACE

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

Forest Supervisor
Challis National Forest
Forest Service Building
P.O. Box 404
Challis, Idaho 83226

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.

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 219.11 (c) (4) (i), 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.

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

CHAPTER I

FOREST PLAN INTRODUCTION

A. PURPOSE OF THE FOREST PLAN

The Forest Plan directs all natural resource management activities and establishes management standards and guidelines for the Challis 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 National Forest Management Act (NFMA), Federal Regulations, and other guiding documents. The prescriptions, standards and guidelines are a statement of the Plan's management direction; however, the project outputs, services, and rates of implementation are estimates 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. A list of the different planning levels is shown as follows:

Congressional Acts

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

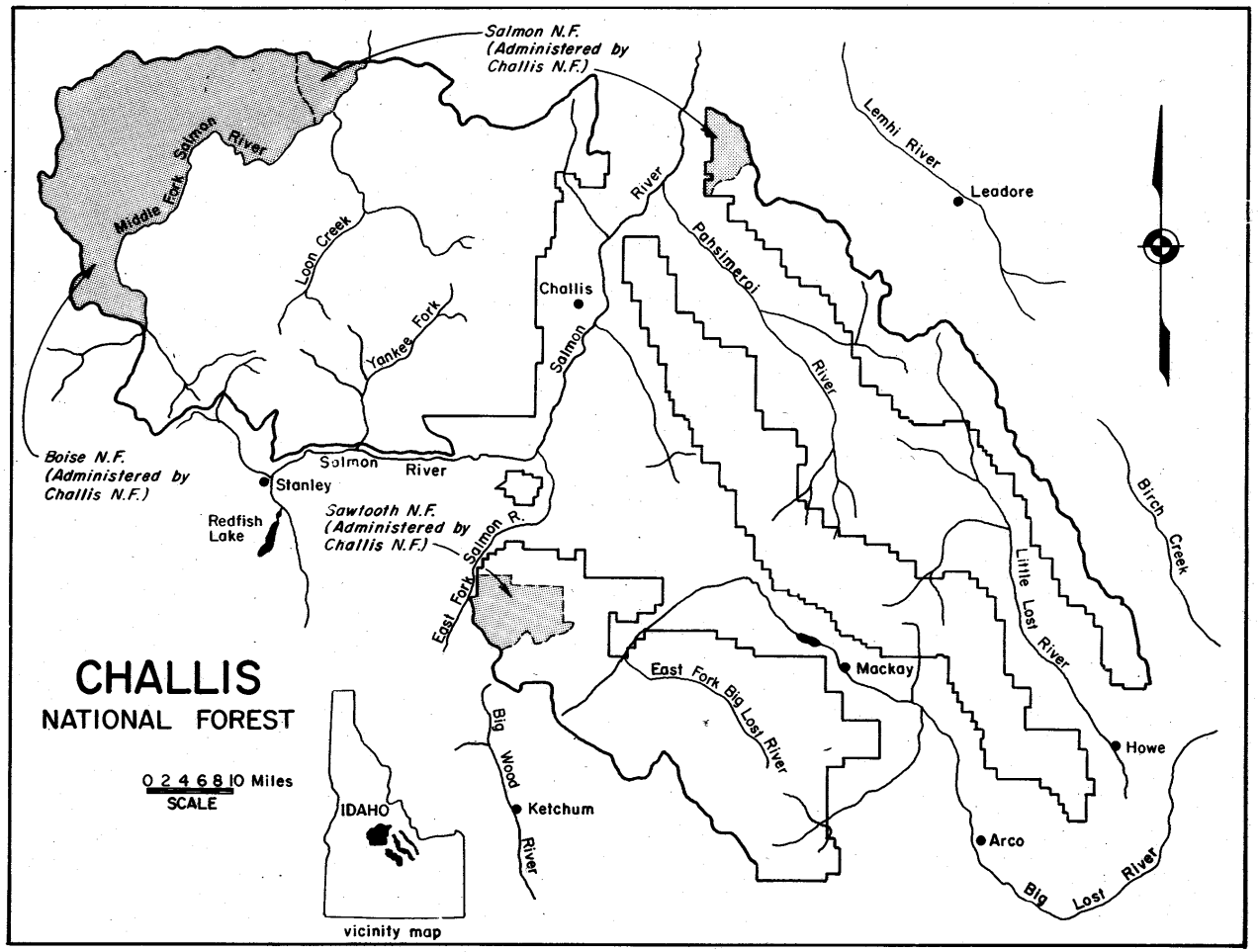
Regional planning level through the
Regional Guide for the Intermountain Region

Forest level planning through the
Challis 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 obtained 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.



ADMINISTRATIVE BOUNDARIES

Figure I-1 Challis National Forest Location Map

Roadless areas studied in the Roadless Area Review and Evaluation (RARE II) 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 Final Environmental Impact Statement (FEIS).

The Forest Plan is the selected alternative of the EIS and is based on the various considerations which have been addressed in the FEIS. 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 FEIS. Activities and projects will be tied to the accompanying FEIS as provided for in 40 CFR 1501.10. The local project Environmental Assessment will follow the management direction in the Forest Plan and will be tiered to the Plan EIS.

C. PLAN STRUCTURE

This plan provides the long term direction for managing the Challis 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 Forest Plan contains management direction for the Challis National Forest. The FEIS described 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

The chapter titled "Forest Management Direction" deals with the multiple use goals and objectives. It also lists the management practices, 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 Challis National Forest is located in central Idaho (see Figure I-1). The gross area administered by the Forest is 2,534,085 acres. The net National Forest acres within the Administrative Unit are 2,516,191. The National Forest System lands are located in 6 counties: Blaine, Butte, Clark, Custer, Lemhi and Valley. The remaining 17,894 acres are in State and private ownership.

The Forest Supervisor is headquartered in Challis, Idaho. There are Ranger District offices in Challis (2), Mackay, and 6 miles west of Clayton.

The Challis National Forest manages lands located in the Boulder, Lemhi, Lost River, Pioneer, Salmon River, and White Knob Mountain Ranges. The Forest provides a wide range of resources and opportunities, including timber, minerals, range, wildlife, watershed, developed and dispersed recreation, and wilderness. The majority of Idaho's population lives between 150 and 250 miles from Challis.

CHAPTER II

ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

A. INTRODUCTION

This chapter describes the present condition of each Forest resource and the environment affected by implementing direction contained in the Plan. 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 this chapter was drawn primarily from the Analysis of the Management Situation, approved in August 1982. 1/

B. PHYSICAL AND BIOLOGICAL SETTING

The Challis National Forest manages mountain lands located in central Idaho. National Forest lands are located in four major geographic areas:

-- Salmon River Mountains which includes portions of the Frank Church—River of No Return Wilderness
-- West Side of Lemhi Range
-- Lost River and Pahsimeroi Mountains
-- Boulder, Pioneer, and White Knob Mountains

The Forest is divided into four Ranger Districts:

-- Middle Fork District: Headquartered in Challis. Administers the Middle Fork of the Salmon River drainage below the mouth of Marsh Creek except Loon Creek drainage above Falconberry Ranch, including parts of Valley and Custer counties.

-- Challis District: Headquartered in Challis. Administers the main Salmon River drainage below the Birch Creek drainage, part of upper Loon Creek drainage, and the Pahsimeroi drainage, including parts of Custer and Lemhi Counties.

-- Yankee Fork District: Headquartered near Clayton. Administers the main Salmon River drainage above Garden Creek, the Marsh Creek drainage, and part of the Loon Creek drainage, all in Custer County.

-- Lost River District: Headquartered in Mackay. Administers lands within the Big and Little Lost River drainages, including parts of Lemhi, Butte, Custer, Clark, and Blaine Counties.

1/ The AMS is available for review at the Forest Supervisor's and District Rangers' Offices.

C. ECONOMIC AND SOCIAL SETTING

1. Zone of Influence

The Challis National Forest's Primary Zone of Influence (ZOI) comprises the communities and counties of central Idaho within and adjacent to the Forest.

There are three primary counties included in the Forest's ZOI (Custer, Lemhi and Butte). These three counties are directly influenced by the management practices tha take place on the Challis National Forest, and the decisions that are made in connection with the various resources. There are six counties (Bonneville, Blaine, Twin Falls, Bannock, Valley, and Ada) that are secondarily influenced by the Forest's management activities.

The Primary ZOI had a population in 1980 of 14,187. The population of these counties increased by 24 percent from 1970 to 1980 (2.4 percent per year average). The counties' population in 1983 was 16,700 (an average growth rate per year of 5.9 percent since 1980).

In 1978, Boise State University and the Idaho Department of Water Resources prepared a forecast of future population by county. Projections for each county in the ZOI for selected years are:

County	1985	1990	1995	2000
Butte	2,953	2,960	2,966	2,953
Custer	4,025	4,296	4,420	4,581
Lemhi	7,998	8,591	9,027	9,313
Total	14,976	15,847	16,413	16,847

More recent preliminary data from the Bonneville Power Administration (BPA) projects slower growth in the three county area.

County populations have increased more rapidly than both sets of projections. The major cause of this increase has been recent mining development and the expansion of associated economic activity.

Actual historic population levels by county in the Primary ZOI are as follows:

	Population				
County	1950	1960	1970	1980	1983
Butte	2,772	3,498	2,925	3,342	3,492
Custer	3,318	2,996	2,967	3,385	5,106
Lemhi	6,278	5,816	5,556	7,460	8,090
Total	12,318	12,310	11,448	14,187	16,688

Details on the population economics, lifestyle, and community cohesion in the Primary ZOI are included in Appendix B of the EIS, and in the Human Resource Unit descriptions maintained in the Forest planning files.

ECONOMIC INDICATORS, PAST TRENDS, AND BASELINE PROJECTIONS FOR PRIMARY ZONE OF INFLUENCE (1978 DOLLARS INFLATED TO 1/1/82 DOLLARS)

	Past Trends			Projections			
	1950	1960	1970	1980	1985	1990	1995
Years Population (M Persons)	12.3	12.3	11.4	14.2 1/	17.0 2/	17.7 2/	17.4 2/
	1978	1980	1981	1982	1985	1990	1995
Years Income (MM Dollars)	135 3/	103 1/	125 1/	136 1/	134	160	166
Years Employment (M Persons)		1980	1981	1982	1985	1990	1995
		5.5	6.8	8.0	7.9	8.2	8.6

1/ Data from Bureau of Economic Analysis, Department of Commerce.
2/ Based on growth projections from BPA preliminary study.
3/ From base year data in Forest Service Implan model.

2. Twenty-Five Percent Fund Payment and Payments in Lieu of Taxes

Lands administered by the Cahllis National Forest provide funding contributions to county governemtn through two types of payments. Payments in lieu of taxes are distributed based on the amount of Federal land in a county. Payments in lieu average $146,000.00 per year for the five counties listed below.

The 25 percent fund payments represent 25 percent of the Gross Sales of the Forest outputs such as timber and grazing. The following table displays a breakdown of 25 percent fund payments by county. The 1980 figure includes the large volume of timber cut and removed from the Cyprus Mine site.

PAYMENTS TO STATE FROM LANDS WITHIN THE PROCLAIMED CHALLIS NATIONAL FOREST

County	Percent of Forest in County	1976	1980	1983
Blaine	0.1	$ 61	$ 158	$ 45
Butte	9.0	5,566	23,511	4,032
Clark	0.1	72	206	45
Custer	76.0	46,893	198,103	34,048
Lemhi	14.8	8,963	37,893	6,630
Total		$61,555	$235,996	$44,800

Disbursement of the 25 percent fund is based on the percentage of Challis National Forest in these counties.

	1976	1980	1982	1985 1/	1990 1/	1995 1/
Payments in Lieu of Taxes And 25% Fund Payments (in M dollars)	207.5	382.0	190.8	221.2	387.9	399.1

1/ Projected from planning model outputs.

D. RESOURCE ELEMENTS

1. Recreation

The Challis National Forest provides a wide variety of outdoor recreation opportunities. Activities on the Forest include, but are not limited to, camping, picnicking, hunting, fishing, floatboating, hiking, cross-country skiing, snowmobiling, and sightseeing. In 1983, the Forest reported 609,200 visitor days total use.

a. Developed Recreation

Most of this use occurs on the Yankee Fork and Lost River Districts. Sites are located along Forest roads and State Highway 21.

Many facilities were rehabilitated and two new units were constructed in the early 1960's. In the years since, many sites have deteriorated to a point where rehabilitation is again necessary. Deterioration is occurring to comfort stations, tables, roads, spurs, and water systems.

In recent years, there has not been any construction nor rehabilitaion of recreational facilities. Some reconstruction of recreational facilities is planned. Locations of developed sites are as follows:

NUMBER OF EXISTING DEVELOPED PUBLIC RECREATION SITES

District	Campground	Trailheads	VIS
Middle Fork	2	1	0
Challis	5	8	0
Yankee Fork	15	9	2
Lost River	6	6	0
TOTAL	28	24	2

The capacity of developed sites is a measure of persons-at-one-time (PAOT), which is an estimate of the number of persons who can comfortably use a site at one time. Camping and picnic sites are estimated to have a capacity of five persons per unit. The current capacity of the Forest is as follows:

CAPACITY IN PAOTS

District	Campgrounds	Trailheads	VIS	Total
Middle Fork	130	2	0	150
Challis	135	165	0	300
Yankee Fork	580	104	100	784
Lost River	510	85	0	595
TOTAL	1,355	374	100	1,829

The theoretical capacity of the above sites is 291,237 recreation visitor days. Theoretical capacity is calculated by taking the PAOT, times season (in calendar days), times two (for camps and transfer camps) or times one for VIS sites. In 1983, there were 83,000 visitor days use. Demand is expected to increase at approximately three percent per year. This is an overall average of 28 percent of theoretical capacity, and it is 13.6 percent of our total reported use. The remainder of the Forest use is in the dispersed areas, existing Wilderness, and the Middle Fork River.

Loristica organizational camp and Bradley Boy Scout Camp are located on the Forest. Use at these sites totaled about 3,500 visitor days in 1983.

Because of the short season, limited recreation use, and availability of varied recreation opportunities on Federal land, very little interest has been expressed for developing privately owned recreational facilities in the area.

b. Dispersed Recreation

Dispersed recreation is use away from developed sites and outside of designated areas, such as the Frank Church—River of No Return Wilderness and the Middle Fork of the Salmon Wild and Scenic River.

Touring (auto), fishing, camping, hiking, and hunting are the most popular uses of the Forest.

Gathering firewood is becoming very popular as we provide roads to areas.

Dispersed use and its impacts are difficult to measure and manage. Dispersed recreation use usually occurs near water. Weekend and holiday use is higher than that during the week.

The capacity of the Forest for dispersed recreation was calculated by using the Recreation Opportunity Spectrum (ROS). District and Forest recreation capacities are identified in the Analysis of the Management Situation, available at the Challis National Forest Supervisor's Office.

We expect current patterns of use to continue unless the economy changes drastically, or conditions change unexpectedly. Use will be most intense on areas served by high standard access roads.

We expect resource deterioration such as soil and vegetaion loss to increase. Increased use of dispersed recreational areas for overflow camping and greater crowding will increase user dissatisfaction. Greatest impacts will occur in areas adjacent to water.

Timber sales and mineral development will add a few miles to the Forest road system. Some of these roads will be closed to motorized recreational use. Travel on roads remaining open will increase.

Competition for choice hunter camp locations will create social conflict and heavy use may deteriorate sites.

Opportunities exist for improving the dispersed recreation experience and reducing conflicts between user groups.

c. Trails

The Forest has about 1,600 miles of trails. Of this, approximately 800 miles are within the Frank Church—River of No Return Wilderness. There are 178 miles of trails, outside of the Wilderness, closed to motorized bikes; thus leaving 622 miles open. The Forest needs 15 trail rights-of-way across private or State lands. Most trail use is in the summer and fall. The majority of trail use is by hikers. Lesser amounts of use occur from horseback riding and motorized bike riding.

Trail conditions within the Forest vary. Some continue to deteriorate because of lack of maintenance and/or improper location. Private landowners may close additional trails where rights-of-way have not been obtained. Conflicts between types of trail users will increase in number and intensity. The ability of our trail system to serve the public will decline while demand continues to increase. This is especially true of trails leading into the Wilderness and popular lake basins. The following is a list of Forest trail miles, including trails within the Frank Church—River of No Return Wilderness:

TRAIL MILES

DISTRICT	MIDDLE FORK	CHALLIS	YANKEE FORK	LOST RIVER	TOTAL
Total Miles	609	307	487	197	1,600
Open to Bikes	3	142	339	138	622
Closed to Bikes	606	165	148	59	978

There are two signed snowmobile and cross-country ski trails on the Forest, although the majority of the use occurs on roads, trails, and cross-country. Currently, this type of dispersed use is increasing.

Two trails, the Knapp Creek-Loon Creek Trail and the Mille Creek Lake Trail have been designated as National Recreation Trails.

d. Cultural Resources

The Forest has recorded 460 cultural resource sites. Of these, 161 are within the Frank Church—River of No Return Wilderness on land administered by the Challis National Forest. These cultural resource sites include prehistoric campsites, lithic scatters, hunting blinds, and rock art sites. In addition, there are historic cabins, stage stations, mines, mining towns, cemeteries, Forest administrative sites, and many miscellaneous sites. One site, the townsite of Custer is listed on the National Register of Historic Places. Bonanza, Bonanza Cemetery, Boothill Cemetery, Bonanza CCC Camp, Bonanza Guard Station, and the Yankee Fork Gold Dredge have been nominated for inclusion on the Register as a historical district. Additional sites having prehistoric and historic interest are on State and private lands within the Frank Church—River of No Return Wilderness, in the Yankee Fork drainage, in the White Knob Mountains, and at various other sites located within the Forest. Maps of recorded sited and information on their condition are on file at the Forest Supervisor's Office and are only available to professional archaeologists and historians.

The Forest has file records of 148 site surveys covering 10,112 acres. These figures do not include two systematic surveys supported by the Forest along the Middle Fork Wild and Scenic River Corridor. A Forest-wide inventory of cultural resources has not been done. Current management will continue to meet the requirements of Federal and Forest Service cultural resource protection and preservation laws.

The Forest has a program for interpreting historic mining and dredging for the public at the Custer Interpretive Site and at the Yankee Fork Gold Dredge. This interpretive plan will be revised as needed.

e. Visual Resources

An inventory of the visual resources on the Forest is nearly complete. The approximate number of acres meeting Visual Quality Objectives are as follows:

Classification	Acres
Preservation	1,203,000
Retention	133,000
Partial Retention	525,000
Modification	459,000
Maximum Modification	196,000

f. Wild and Scenic Rivers

The Middle Fork of the Salmon Wild and Scenic River, designated with the original Wild an dScenic River Act of 1968, is administered by the Challis National Forest. The U.S. Department of Interior study, "A Report on Natural and Free-Flowing Rivers in the Northwester United States" of 1980, did not identify any additional rivers on the Challis National Forest with potential for classification as wild, scenic, or recreational. Using the revised Guidelines for Eligibility, Classification, and Management of River Areas (Federal Register, 9/7/82), and Interdisciplinary team made a review of rivers and streams on the Forest but did not identify any candidates.

2. Wilderness

The emphasis of wilderness management is to protect wilderness ecosystems while allowing human use. A primary concern is the heavy human impact on popular sites.

Locally, interest is very high on both side of the wilderness issue. This Forest currently administers 782,255 acres, about one-third of the 2,353,739 acre Frank Church—River of No Return Wilderness.

A national assessment called Roadless Area Review and Evaluation (RARE II) was completed and documented in a final environmental statement in January of 1979. Three areas on the Challis National Forest were proposed for wilderness classification through this process. The approximate acres and names follow:

Area	Acres
Borah Peak	119,675
Lemhi	93,068 1/
Pioneer Mountains	44,369 1/
TOTAL	257,112

1/ Challis portion of these recommended areas. Total acres are: Lemhi 168,965 acres including lands on the Salmon National Forest; Pioneer Mountains 104,639 acres including lands on the Sawtooth National Forest.

RARE II also identified one area which should receive further study prior to making a decision on proposing wilderness designation: the Boulder-White Cloud are which contains about 39,700 acres on the Challis National Forest and 242,688 acres on the adjacent Sawtooth National Forest.

The RARE II decision was challenged by the State of California. The legal challenge resulted in a Ninth Circuit Court of Appeals decision that the RARE II Environmental Statement was inadequate. On February 1, 1983, the U.S. Department of Agriculture, after evaluating the court decision, decided that all roadless areas, both those proposed for wilderness and non-wilderness designation, would be subject to re-evaluation through the Forest Plan process. Table II-1 lists the roadless areas the Challis Forest Plan evaluates and the revised sizes as of 1984. A detailed description on each area is contained in Appendix C of the DEIS.

TABLE II-1

ROADLESS AREAS ON THE CHALLIS NATIONAL FOREST
BY ROADLESS AREA NUMBER AND NAME 1/

ROADLESS AREA NUMBER	ROADLESS AREA NAME	ROADLESS AREA ACREAGE
004	Challis Creek	41,354
005	Squaw Creek	96,987
006	Spring Basin	5,000
007	Greylock	12,605
009	Seafoam	28,442
010	Grouse Peak	7,985
011	Pahsimeroi Mountains	72,107
012	Borah Peak	129,581
013	King Mountain	82,695
014	Jumpoff Mountain	13,337
017	Porphyry Peak	45,273
019	Copper Basin	10,402
024	Warm Creek	7,516
025	White Knob	62,416
026	Cold Springs	8,934
027	Red Hill	14,274
028	Wood Canyon	7,626
601	Diamond Peak	72,239
901	Camas Creek	3,949
902	Taylor Mountain	14,940
903	Lemhi Range	149,629
908	Loon Creek	106,758
915	Hanson Lakes	13,719
916	Red Mountain	5,189
920	Boulder-White Clouds	164,754
921	Pioneer Mountains	169,420
922	Railroad Ridge	7,532
923	Blue Bunch Mountain	7,472
	Total Roadless Area Acres	1,392,135

1/ Acres were recalculated as part of the current planning process.
2/ Roadless Areas with 600 or 900 numbers extend into adjacent Forests.

3. Wildlife and Fish

The Challis National Forest provides habitat for one of the most important and diverse wildlife populations and resident and anadromous fisheries in the State of Idaho. Although the majority of recreation use occurs with resident fisheries, big game hunting draws larger concentrations of use over a short period of time.

a. Forest Species

The variety of plant communities and geomorphic formations provides habitat for approzimately 63 mammals, 247 birds, 19 amphibians and reptiles, and 18 fishes. Twenty-seven mammals, 45 birds, and 8 fish varieties are considered economically important to the State of Idaho.

There are three Threatened and Endangered Species that use the Forest. Peregrine falcon and Bald eagle occasionally occupy habitat on the Forest. Rocky Mountain gray wolf may inhabit areas on the Forest year round. The gray wolf is a Threatened and Endangered Species, for which "recovery" habitat will be designated in the near future.

The Forest has 15 Forest Service Sensitive plant species, three of which are under formal status review.

b. Management Indicator Speicies (MIS) and Reasons for Selection

Management Indicator Species are considered to be key species which represent life forms and have habitat requirement similar to other groups of plants or animals. They are species for which populations and habitat objectives can be established, and will be tracked as indicators of habitat capability.

The selection of Management Indicator Species involves a 3-step process: (1) Formulation of Selection Criteria; (2) List of species qualifying as Management Indicator Species, and (3) Final selection of Management Indicator Species through use of Selection Criteria.

The following selection criteria were used for the identification of management indicator species or groups of fish, wildlife, and plants:

-There are issues or concerns about the wildlife species and/or its habitat.
-The species has special habitat needs that may be influenced significantly by management practices resulting from land use allocation.
-The species has special habitat needs that may be influenced significantly by management practices resulting from land use allocation.
-The species is economically important and occurs throughout the Forest.
-The species represents other life forms or groups of animals and their habitat requirements, especially those dependent upon early and late ecological succession.
-A species which can be used to predict the continued viability of other species in the planning area.
-The populations and habitat of the species can be technically and feasibly monitored.

Terrestrial Animals

1) Elk – Represents species associated with the following plant/animal communities: Wet meadows, wet sagebrush/grass, savanna forest, spruce/fir forest and coniferous riparian.

2) Mule Deer – Represents species associated with the following plant/animal communities: Dry and wet sagebrush/grass, savanna forest, deciduous riparian, subalpine/rock scree.

3) Red Squirrel – Represents all species dependent upon climax coniferous or mature conifer stands.

4) Mountain goat and bighorn sheep – Represents species associated with alpine and subalpine/rock scree.

Plants

1) Artemisia tridentata (Big sagebrush) – subspecies tridentate, vaseyana, and wyomingensis. Increases in sagebrush overstory over natural levels of approximately 20% indicate a decreasing ecological range condition.

2) Purshia tridentate (Bitterbrush) – Important wildlife winter forage.

3) Agropyron spicatum (Bluebunch wheatgrass) and Festuca idahoensis (Idaho Fescue) – Indicative of climax rangeland conditions.

4) Achillea millefolium (Western Yarrow) and Cirsium arvense (Canadian Thistle) – Indicative of disturbance in riparian areas.

Aquatic Animals

1) Rainbow trout, cutthroat trout, and bull trout.

2) Macroinvertebrates –

   a) Rhithrogena, Epeorus and Ephemerella doddsi – These mayfly genera are indicative of high water quality.
   b) Zapada – This stonefly is a "shredder" and is indicative of the amount of leafy matter entering a stream. Generally, as riparian areas are degraded, its number are reduced.
   c) Ephemerella inermis – This mayfly is moderately tolerant to sedimentation. If its numbers are increasing while clean water species are decreasing, it may indicate increasing sediment.
   d) Chironomidae – This family of true flies is very tolerant of high sediment levels. If their numbers are increasing in relation to others decreasing, it may indicate a degradation of habitat.

3) Steelhead trout and Chinook salmon

c. Habitat Capability

Habitat capability is a function of the amount and arrangement of (a) food, (b) cover, (c) water, and (d) space. The one that is the most limiting, becomes the governing factor regulating MIS populations.

The Challis National Forest has developed a technique of displaying the relationship of animals and their habitat. The methodology is primarily based on the assumption that habitats within two similar geographical areas have similar physical characteristics, and these physical characteristics are definable. This definable ecosystem is called a "Plant/Animal Community Association". The PACA approach is a system that manages and organizes biological data, extrapolated from the various ecosystems, into a framework which allows for the consideration of (1) all vertebrate species and Threatened and Endangered plants in the planning process, (2) species with management concerns, and (3) identification of habitats requiring special attention.

The Plant/Animal Community Associations are listed in the Glossary. Listed below are the Plant/Animal Community Associations (W-1 through W-12) that have been assigned to each terrestrial Management Indicator Species. The combination associations represent habitats in which the animal spends 90 percent of its life.

1) Current Habitat: Current habitat is that habitat which is currently available, but may or not be occupied.

   a) Mule Deer – wet sagebrush/grass (W-2), dry sagebrush/grass (W-3) savanna forest (W-4), subalpine/rock scree (W-7), and deciduous riparian (W-9).

   b) Elk – wet meadow (W-1), wet sagebrush (W-2), savanna forest (W-4), spruce fir/forest (W-5), and coniferous riparian (W-10).

   c) Bighorn sheep – subalpine/rock scree (W-7) and alpine/rock scree (W-8).

   d) Mountain goat – alpine/rock scree (W-8).

   e) Red squirrel – climax coniferous forest (W-12).

2) Potential Habitat: Potential habitat is the total habitat which is currently available, plus habitat which is not suitable but could be made suitable through vegetation manipulation.

   a) Mule Deer – same as current habitat (W-3, W-4, W-7, W-9) plus climax coniferous forest (W-12).

   b) Elk – same as current habitat (W-1, W-2, W-4, W-5, and W-10, plus climax coniferous forest (W-12).

   c) Bighorn sheep – same as current habitat (W-7 and W-8).

   d) Mountain goat – same as current habitat (W-8).

   e) Red squirrel – same as current habitat (W-12), plus savanna forest (W-4).

3) Key Habitats: Certain physical components of wildlife habitat that receive heavy use (e.g., reproduction and breeding areas, travel routes, moist sites, licks and winter ranges). If one of these key components is adversely affected, it may result in a reduction of the species.

Forest-wide Summary of MIS Capability Levels

	Management Indicator Species	Minimum Viable	1981	(Potential) Maximum	Trends
Population (Numbers)	Mule Deer	4,810	19,074	76,550	Upward
	Elk	2,054	5,058	9,727	Upward
	Bighorn Sheep	505	568	5,649	Upward
	Mountain Goat	597	454 2/	1,944	Upward
	Red Squirrel	(Populations not tracked)			
Habitat (M Acres)	Mule Deer	168	1,138	1,380	Static
	Elk	308	685	999	Upward
	Bighorn Sheep	57	452	852	Static
	Mountain Goat	27	174	174	Static
	Red Squirrel	28	284	345	Static
Population (M lbs.)	Resident Fish	38.29	205.7	235.4	
	Anadromous Fish	22.14	22.6	592.1	
Habitat (Acres)	Resident Fish 3/	5,680	5,680	5,680	
	Anadromous Fish 4/	2,214	1,986	2,214	

1/ For specific capability levels of Management Areas, see CNF-AMS.

2/ Mountain goat populations are considered to be below MVP Forest-side.

3/ Populations of resident fish MIS at the minimum viable population level would occupy the same area as they would at other levels, but at greatly reduced numbers.

4/ Populations of anadromous Management Indicator Species at the minimum level would occupy more habitat than is currently occupied because current populations are felt to be below minimum level, and therefore using less habitat than they would at minimum viable population level.

Habitat characteristic needs for resident and anadromous salmonids vary with time of year and stages of their life cycle. Salmonids in general, have similar requirements for spawning, incubation and rearing while anadromous species have needs tied to long migration to and from the ocean.

d. Habitat

Habitat acres and distribution of wildlife habitat (Plant/Animal Community Associations) are displayed in Table 6 of the Challis

National Forest AMS. These vegetation communities have been mapped on 7 ½ minute orthophoto quads covering the entire Forest. Most of the Management Areas contain all the various plant community types, indicating a high degree of vegetation and animal diversity.

Sagebrush and grass habitat types have shown significant improvement due to improvement in grazing systems and grazing allotment administration.

Riparian areas are an important wildlife habitat type offering a great degree of animal diversity and biomass production. Because of improved grazing practices, many of these areas are improving.

Distribution of water in some of the more arid habiatas has been greatly improved within the past ten years. Invariably, there are numerous areas where water is still the limiting factor for habitat, particularly during the late summer months when succulent vegetation becomes scarce, and springs and seeps stop flowing.

The distribution of anadromous fish habitat is displayed in Figure II-1.

e. Habitat Diversity

Animal diversities are closely associated with habitat diversity. All habitats identified exhibit some degree of plant/animal diversity. They range from the climax coniferous forest, which has only 1 percent of the total animal species, to the deciduous riparian which contains 24 percent.

All community types possess potentials for increasing plant or animal diversity, depending upon the ecological and vegetation condition and the particular site potential of the habitat. Two types which offer the most substantial opportunity for increasing diversity are climax coniferous forest and the deciduous riparian types. The rationale for maintaining or increasing diversity within the two types differ.

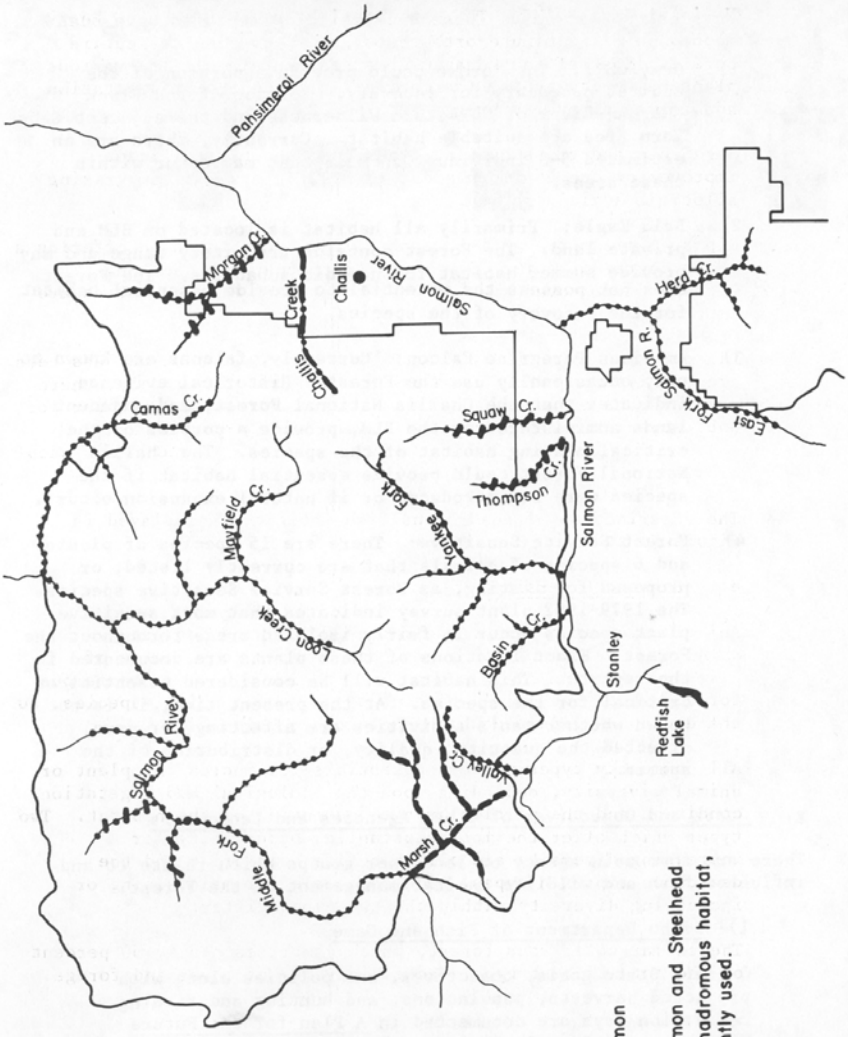
The climax coniferous forest, which comprises nearly 50 percent of the total forest type, lacks diversity of cover and forage.

Diversity can be increased in the deciduous riparian community. Most of this habitat is in less than satisfactory condition. Management practices can improve the habitat.

f. Habitat for Threatened and Endangered and Forest Service Sensitive Plant and Animal Species.

It is anticipated that part of the Frank Church—River of No Return Wilderness and adjacent areas may be proposed for wolf recovery habitat by the U.S. Fish and Wildlife Service, pending further investigations.

The current status of the Threatened and Endangered Species habitat is as follows:



ANADROMOUS FISH HABITAT ON THE CHALLIS N.F.

Figure II-1

II-15

1) Gray Wolf: The Forest could provide a portion of the habitat necessary for recovery. Portion of the Frank Church—River of No Return Wilderness and the adjacent Cape Horn Area are suitable habitat. Currently, there are an estimated 5-8 individual animals that may occur within these areas.

2) Bald Eagle: Primarily all habitat is located on BLM and private land. The Forest contains transitory range and may provide summer habitat for nomadic subadults. The Forest does not possess the potential to provide essential habitat for the recovery of the species.

3) American Peregrine Falcon: Currently, falcons are known to only occasionally use the Forest. Historical evidence indicates that the Challis National Forest, and adjacent lands administered by the BLM, provide a portion of the critical nesting habitat of the species. The Challis National Forest could provide essential habitat if the species were re-introduced or if natural expansion occurs.

4) Forest Service Sensitive: There are 15 species of plants and 6 species of animals that are currently listed, or proposed for listing, as Forest Service Sensitive species. The 1979-1982 plant survey indicates that most sensitive plant species occur in fairly isolated areas throughout the Forest. Exact locations of these plants are documented in the reports. This habitat will be considered essential or critical for the species. At the present time, it is not known whether man's activities are affecting, or have, affected the quantity, quality, or distribution of the species.

g. Goals and Objectives of Other Agencies and Landowners

There are four main agency or landowner groups which relate to and influence fish and wildlife habitat management on the Forest.

1) Idaho Department of Fish and Game

Overall State goals, objectives, and policies along with projected harvests, populations, and hunting and fishing recreation days are documented in A plan for the Future Management of Idaho's Fish and Wildlife Resources, Volume I, Goals, Objectives and Policies, 1975-1990, and the 1986-1990 Species Management Plans for Mule Deer, Elk, Mountain Goat and Bighorn Sheep.

The goals and objectives for fisheries are identified in A Plan for Managing Idaho's Fishery Resources, 1986-1990. These objectives do not quantify population numbers. A summary of the objectives follows:

a) Anadromous Fish Program

With the exception of sockeye salmon, wild salmon and steelhead populations will receive priority consideration an all fishery management decisions.

Remaining anadromous fish stream habitat in Idaho should be preserved in a free-flowing condition.

Spring Chinook – rebuild to 1960 population level by 1995.

Spring Chinook – rebuild populations to levels that will provide for a sport harvest of these fish.

Steelhead – rebuild to 1960 population levels by 1995.

b) Resident Trout Program

Native wild stock of resident trout will receive priority consideration in all management decisions involving resident fish.

Non-native fish species or strains will not be introduced into streams or stream sections designated as "wild" until adequate study has been made as to their desirability.

Increase allowable harvest potential, and maintain or exceed current catch rates.

Brook trout will not be planted in stream presently supporting or potentially capable of supporting fishable populations of other trout species or spawning populations of anadromous fish.

The present range of bull trout in Idaho will not be expanded.

2) Bureau of Land Management

Goals and objectives of the BLM affect management on the Challis National Forest because their lands generally border Forest lands at lower elevations, and provide a majority of the winter range for big-game species.

Their present policy is to improve and protect these ranges by coordinating with other resources and uses, and by specific habitat management and/or improvement program. This management is crucial to the maintenance of existing big game and other wildlife species, many of which use National Forest System lands during the spring, summer, and fall.

3) U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service has lead agency responsibilities for Threatened and Endangered Species. Their objective is removal of species from listing as Threatened and Endangered through the protection and improvement of habitat and species population increases.

The Fish and Wildlife Service has identified the Columbia Basin salmon and steelhead as the most important problem confronting the Fish and Wildlife Service nationally. Their goal is for the Challis National Forest to assist in providing suitable habitat for increased natural production and increased smolt outplants from hatchery production.

4) Northwest Power Planning Council and the Bonneville Power Administration

These groups have been directed by the Northwest Power Planning and Conservation Act of 1980 to ensure adequate consideration for environmental concerns in their energy planning activities and more specifically to "protect, mitigate and enhance" fish and wildlife resources. Funding may be available through this program to do habitat improvements on the Forest.

5) Private Lands

Some private lands contain historic game winter ranges which are particularly important to deer and antelope. Some of the creeks used for fish spawning originate on or run through private lands. The continued loss of wildlife and fish habitat to development has put increased pressure on the Forest and the BLM to mitigate some of the losses by increasing the carrying capacity on Federal lands.

h. Demand for Wildlife and Fish

Because the number of hunting and fishing licenses and season length are presently limted, it is impossible to determine the actual demand for wildlife.

In most cases, projected demand is considerably higher than supply. Bighorn sheep display the highest disproportion of supply meeting projected demand, but also possess one of the greatest potentials for supply increase.

Small game and non-game animals are the only wildlife groups where supply meets projected demand.

i. Current Program

The Forest wildlife program consists generally of improvements and maintenance, studies and surveys, cooperation with other groups and agencies, and coordination with other resources and uses. Improvements consist of burning sagebrush to increase grass/forb composition and diversity, water developments, mahogany and aspen rejuvenation, fencing springs and key riparian areas, seeding and planting, and road closures to protect key areas. Table II-6 (1) of the Challis National Forest Plan EIS projects improvements. The greatest need for increased habitat improvement is in the riparian, aspen, and overmature timber types.

Major studies or surveys completed or continuing are:

> Threatened and Endangered plant survey; stream and lake surveys; wolf survey (Yankee Fork and Middle Fork Districts); studies of species/habitat relationships; habitat typing; raptor survey; winter range surveys. Riparian inventories are planned. There are several ongoing research studies.

A transplant and stocking program by the Fish and Game, coordinated with the Forest, has been successful. Two moose, one goat, and three Rocky Mountain bighorn transplants have been completed, and their populations are expanding. Several more moose, sheep and goat transplants are planned within the near future. No grizzly bear or wolf transplants are planned on the Challis National Forest.

The following is a list of the average acres of habitat and structures improved and maintained on a yearly basis under current management:

MAINTENANCE	ACRES	STRUCTURES
Wildlife	0	5
Fisheries	0	15

IMPROVEMENT		
Wildlife	500	5
Fisheries	5	20

4. Range

There are 1,781,500 acres of rangeland on the Challis National Forest. Of this total, 65 percent or 1,162,300 acres are included within the boundaries of established grazing allotments. Within the allotment boundaries, 34 percent or 398,600 acres are classified by the Range Allotment Analysis as suitable for domestic livestock grazing. Another 28,200 acres outside of established allotments are suitable for domestic livestock grazing. The majority of these acres are closed to livestock grazing, for wildlife and watershed protection.

Grazing management is shared between the Forest Service and the grazing permittees. The Forest issues grazing permits that specify the type and number of livestock and the season of use. Allotment Management Plans outline the use and development of each allotment on a long-term basis. Operating Plans outline annual direction. Allotments are inspected by the Forest Service for use, condition, and compliance with grazing permits, the Allotment Management Plan, and the Annual Operating Plan. The permittee is responsible for herding, salting, doctoring livestock, maintaining improvements, and sharing in the cost of improvements on allotments.

Overall range condition and productivity has improved significantly since the 1940's, due to improved management practices. Range condition as determined during Range Allotment Analysis was:

44,000	acres excellent
269,300	acres good
342,100	acres fair
107,600	acres poor
2,400	acres very poor
765,400	Range suitable for grazing and browsing

Range condition was determined through Range Allotment Analysis conducted on each grazing allotment between 1961 and 1985. Some of these studies are over 20 years old. Many allotments have been developed and are being managed under intensive management systems. Thousands of acres have shown significant improvement, however, new range condition information has not been collected.

In 1984, Forest permitted use exceeded 115,000 Animal Unit Months (AUM's). This included term and temporary use on established allotments, recreation stock use, administrative stock use, etc. Actual use for the same year was 112,410 AUM's.

The Morgan Creek wild burro territory and Alder Creek wild horse territory included National Forest System lands. Both territories have been analyzed in conjunction with BLM Management Framework Planning. In both cases, the determination was made to remove the animals and eliminate the territories. Burros were removed from the Morgan Creek territory by the BLM in 1983. During the winter of 1983-84, five of the eight horses in the Alder Creek herd died. The Alder Creek territory does not provide necessary requirements for maintenance of a wild horse population.

Noxious farm weed control has been directed mostly at leafy spurge, spotted knapweed, musk thistle, henbane, white top and Canada thistle. Control efforts have been only partially effective in controlling these rapidly spreading weeds on National Forest system lands due to limited budget and court orders. Limited funding and control efforts on adjoining private, state, and other federal lands also limit opportunities for effective control of noxious farm weeds.

Grazing trends on the Forest after the 1970's show significantly decreased use from periods when grazing was not controlled. In contrast to recent years, improved management of National Forest System rangelands has brought about gradual increases in livestock use.

Sheep use is an exception. It continues to decline in response to serious economic and labor problems in the sheep industry. The long term trend indicates continued conversion of sheep permits to cattle use on range suitable for the conversion.

Livestock grazing on the Forest generally occurs between June 1 and September 30. However, there is some fall and spring use.

A major grazing conflict (issue) on the Forest occurs in riparian zones. The growing awareness of the importance of riparian areas, coupled with NFMA requirements, has resulted in greater emphasis on coordinated management to respond to needs of livestock, wildlife, fish, water quality, timber harvesting, and recreation.

The riparian ecosystem comprises less than 3 percent of the total land area on the Challis. Inventory data available on riparian areas consists of a limited channel stability inventory and the range analysis inventory. The percentage of vegetative types identified in the range inventory as riparian in less than satisfactory condition are: Dry meadows 13 percent, wet meadows 7 percent, aspen 1 percent and willow 3 percent.

The application of improved grazing management systems in riparian areas has demonstrated ability for improving riparian conditions. Current grazing management has not resolved all riparian conflicts and deteriorated riparian conditions continue in some localized sites. Such conditions will probably continue until further technical knowledge is achieved and management systems are refined to deal with problem areas.

Plant composition on some areas has changed noticeably from native conditions. Historic grazing practices have increased density of sagebrush and lowered forage productivity on many of the rangelands. Many of these areas have been treated and placed under management to reduce sagebrush density. Current management practices are also allowing perennial native grasses to be more competitive and productive.
The Forest is using vegetation manipulation practices in conjunction with grazing management to improve age class structure of sagebrush stands on big game winter range.
Allotment Management Plans provide direction to help reverse any downward trends in range condition. Fences, water developments, and other improvements are needed to meet this objective.
Habitat of some sensitive plant and animal species is within grazing allotments. Allotment Management Plans will recognize and provide for the protection of those species as their habitat requirements become know.

5. Timber

The Forest contains a significant amount of marginally productive commercial timber lands. The most recent inventory shows a total of 792,571 timbered acres of which 340,608 acres are classes as tentatively suitable for timber harvest and production (36 CFR 219.14). The total does not include any timber acres within the Frank Church—River of No Return Wilderness. The tentatively suitable acres of timber lands are the lands which were considered further in the analysis for suitability towards timber harvesting. They presently meet the criteria for minimum biological growth standards (capability); they are not legislatively or administratively withdrawn (availability); the technology is available to assure regeneration (suitability). These tentatively capable, available, and suitable lands, identified in Table II-2, have gone through tests for economic efficiency of timber production and trade-off analysis with other resources within this plan to determine their recommended land use classification.
The majority of the timber on the Forest in overmature (150 years or greater) Douglas-fire and lodgepole pine (see Table II-3). Engelmann spruce and subalpine fir are the most abundant of the secondary species. Statistical analysis of the timber base indicates the average overmature stand achieve net growth rates of +14.6 cubic feet (CF) to –6.5 CF per acre for Douglas-fir, 150 to 250 years old. Lodgepole pine overmature rates are +11.4 CF to –22.1 CF per acre for the same age class
Yield data shows that, on the average, managed stands can achieve net growth rates of greater than 40 CF per acre on the Challis National Forest.

TABLE II-2

LANDS CAPABLE, AVAILABLE AND TENTATIVELY SUITABLE FOR TIMBER PRODUCTION - CHALLIS NATIONAL FOREST

Current Inventory		Acres
Slopes less than 45%		136,238
Slopes greater than 45%		204,370
	TOTAL	340,608

Size Class	Acres	Percent
Overmature Sawtimber (150 Years +)	171,702	50
Mature Sawtimber (60-150 Years)	153,166	45
Pole Timber (20-60 Years)	2,154	1
Seedling/Sapling (1-20 Years)	3,073	1
Non-stocked	10,513	3
TOTAL	340,608	

Tentatively suitable Forest land is the base for determining which lands are suitable to be managed for timber production on a regulated basis. Chapter IV identifies and discussed suitable Forest land for timber management under this Forest Plan.

A regulated Forest is suggested to have approximately 40-50 percent of its commercial Forest land in the sawtimber classes, 25-35 percent in the pole class, and 25-30 percent in the seedling/sapling class.

TABLE II-3
CURRENT INVENTORY BY SPECIES TYPE (From AMS)

Species	Acres	Percent	Gross Volume MMCF
Douglas-fir	188,421	55	277.05
Lodgepole pine	122,966	36	98.65
All other species	29,221	9	59.69
	340,608	100	439.39

Total annual gross growth of timber on these lands is estimated to be 10.9 MMCF. The Forest's annual live timber sale volumes from 1982, 1983, and 1984 ranged between 0.4 MMCF (2 MMBF) and 0.7 MMCF (3 MMBF). Between 1971 and 1981, the sale volumes fluctuated from 3.2 MMCF (14.5 MMBF) to 0.3 MMCF (1.2 MMBF).

A large portion of the commercial timber base is noncontiguous and somewhat scattered. This factor, along with the high cost of accessing many of the stands, has resulted in sale size offerings of generally less than 0.2 MMCF (1 MMBF). Most of the sales offered are close to an available, established road network. If a significant amount of road construction, reconstruction, cable systems and/or other cost factors are necessary to harvest the timber, many sales will not return the investment. Local operators often bid above base rates and therefore, even small sales can rise above cost.

Incidental highlead or skyline logging has occurred on the Forest. Most sales on the Forest have been logged by conventional tractor/jammer methods.

An estimated 60 percent of the Forest's tentatively suitable timberlands occurs on slopes greater than 45 percent and would require cable logging.

An additional complication results from the small size of a significant portion of the overmature sawtimber. There are some stands, primarily in Douglas-fir, which average 10 inches diameter breast-height. At present, the opportunity and willingness of industry to utilize this small diameter material is untested and will affect future flows of timber products from the Forest. Industry's capability to profitably mill large quantities of small logs is questionable in this area.

Since the analysis was completed on the Forest Plan, two factors have changed that have influenced timber supply/demand relationships. They are the recently imposed tariff on imported lumber, and lower interest rates. Studies conducted by Hanes and Adams in 1983 project an estimated 1 to 5 percent effect on prices and 1 percent increased demand for timber volume during the planning period. For the Challis, this would amount to .030 MMBF annually. Since the total ASQ for the Challis is 3 MMBF, the demand that theoretically could be estimated is considered not to be significant. Other factors in combination would have to be in effect to cause a significant increase in demand.

A review of "A Report on Idaho Timber Supply", Feb. 1987, indicates that future timber supplies from private lands will be less than in the past. That Challis is within the Southeast Marketing Zone covered by the report. Within this zone, timber supplies from other than National Forest Lands is virtually nonexistent. Therefore, timber demand has and will continue to be met from National Forests. It is projected that the demand can continue to be met without changing the ASQ.

National and regional timber demands are evaluated in the 1985 RPA program. Within the Southeast Marketing Zone, it is estimated that timber supplies will meet the projected 1985 RPA levels. The Challis EIS evaluated both the 1980 and the 1985 RPA tentative targets for the Forest (see Alternative 2 and 4). While these alternatives achieve the timber targets, they did not resolve issues or meet other resource objectives in a manner that provides maximum net public benefits.

The ASQ for the 10 year planning period is set at 30 MMBF or an average of 3 MMBF/year. This is 1.3 MMBF higher than present average annual demand of local dependent mills in Challis, Mackay, and Stanley. During the second decade, sale schedules could be increased to 4 MMBF/year under this plan. This would apply only to the first 5 years of the second decade, since the plan must be revised by that time.

The basic reason for this ASQ level is to provide a continuing supply of timber based upon projected demand. This helps support the local dependent mills which are dependent upon National Forest timber. Other benefits from timber sales are an increase in wildlife forage areas and putting the harvest areas into healthy managed stands of timber.

There is a potential to raise the annual ASQ to 5 MMBF during this period if demand from local dependent mills or close regional mills exceeded the present ASQ. It is projected that the increased ASQ could be harvested from the 95,916 acres of suitable timber land selected for timber production in the Forest Plan. Any potential increase in the ASQ would however, be preceded by an environmental analysis and documented in an Environmental Impact Statement. If the result of this analysis showed that increasing ASQ provided net public benefits, then the Forest Plan could be amended accordingly

Roundwood product sales, primarily posts and poles, have fluctuated greatly over the last decade. A high of 1.5 MMBF was reported in 1981. This involved the Cyprus Mine settlement sale. In 1983, the Forest was at a 10-year low of approximately 97 MBF sold.

Fuelwood use was reported at 2.25 MMBF in 1983. Demand for this product presently comes from the local population base, which is significantly influenced by the large Cyprus Mine operation. The majority of the Forest is currently on a charge system of $5.00 per cord with a $20.00 minimum limit purchase.

Artificial regeneration of Douglas-fir stands has met with limited success on the Forest. Less than optimal planting and survival factors have contributed to numerous planting failures. Natural regeneration of Douglas-fir also has met with limited success on sites prepared through burning, discing, or clearing. Western spruce budworm infestations severely reduce the Douglas-fir cone crop, which impacts establishment of seedlings. In addition, budworm contributes to mortality of established regeneration under older stands. Older trees are much better equipped to withstand successive years of attack. Many of the younger trees cannot survive as successive years growth is eaten by the budworm larvae.

Lodgepole pine regeneration has been much more successful on the Forest. Where Douglas-fir cannot be planted or previous plantings failed, lodgepole pine can be introduced and generally survives well. The Forest's present planting program consists primarily of lodgepole pine with minimal amounts of Douglas-fir or other species. Natural regeneration of lodgepole pine is also generally successful.

TIMBER RESOURCE LAND SUITABILITY

CHALLIS NATIONAL FOREST

FOREST AND NON FOREST

		ACRES	Definitions
NOT SUITED			
	Not Capable	380,841	
	Non Forest	941,365	
	Irreversible Soil and Watershed Damage	22,800	
	Withdrawn from Timber Production	782,255	
	Subtotal of Above	2,136,161	
TENTATIVELY SUITABLE	SUITABLE		
	Lands Cost Efficient		
	Direct Benefits Exceed Direct Costs	95,916	
	Subtotal of Above	95,916	
TENTATIVELY NOT SUITABLE	Lands Not Cost Efficient to Meet Objectives Future Timber Production Possible	243,070	
	Multiple Use Objectives Preclude Timber Production		
	Other Uses	2,510	
	Proposed Wilderness	38,434	
	Subtotal of Above	284,014	
	TOTAL NATIONAL FOREST LANDS	2,516,191	

II-25

6. Water

The Challis National Forest yields approximately 2.4 million acre-feet of water each year. Characteristic of the intermountain area, as much as 75 percent of this yield is delivered during snowmelt runoff from May to July. Consequently, late summer/early autumn natural streamflows are often insufficient to meet both consumptive and nonconsumptive (instream flow) needs. Natural flows have been augmented in isolated cases to supplement flow with reservoir storage water. In the Salmon River drainage, Mosquito Flat Reservoir supplements natural stream flow in Challis Creek, primarily for irrigation. Buster Lake supplemented irrigation and municipal needs in Garden Creek drainage until it was breached in 1984. In the Big Lost River drainage, Mackay Reservoir provides irrigation water for much of the area below the town of Mackay. Many of the proposals for future dams are located in this drainage.

The demand for water originating on the Forest is continuing to grow, primarily in response to irrigation, mineral activity, and hydroelectric development. With increased demands on the water resource, it will be even more important to identify the Forest water needs, including instream flow. As a result, the quanitity and quality of the water leaving the Forest must be maintained. In conjunction with maintaining an inventory of the consumptive uses on the Forest, majoy emphasis has been directed to the quantification of instream flow needs for all critical stream reaches on the Forest. A majority of the streams have been quantified in reaction to a water filing.

Most of the water originating on the Forest meets or exceeds State water quality standards, but in some drainages, the quality of water may be below its potential. The cumulative impact ov continued management oactivity in a drainage can create a situation where riparian area dependent resources are significantly affected. The water quality monitoring program is used to determine the adequacy, problems, and needed modificateions of 'Best Management Practice' to protect the water resource.

7. Minerals

a. Mineral Land Suitability

1. Availability

Lands within the Challis National Forest are open for mineral location and leasing unless restricted by withdrawal or special legislation. Sixty-eight percent of the total Forest is currently available for mineral activity. More than 99.5% of the Forest, outside of the Frank Church—River of No Return Wilderness, is available (see Table II-4).

Special legislation has determined that the Middle Fork of the Salmon River and its tributaries are unavailable for dredge and placer mining. Power site withdrawals may also be determined to be unavailable for placer mining.

None of the acquired lands administered by the Challis National Forest have outstanding or reserved mineral rights.

TABLE II-4: WITHDRAWN AND AVAILABLE LAND

		Existing Withdrawals		Available Area	
Management Area	Total Acres	Acres	% of Total Area	Acres Available	% of Available
1) Frank Church—RONRW	782,255	782,255	100	0	0 1/ 2/
2) Seafoam	37,684	565	1.5	37,119	98.5 3/
3) Marsh Creek	73,871	708	1.0	73,163	99.0 3/
4) Valley Creek	13,682	0	0	13,682	100.0
5) Basin Creek	43,923	0	0	43,923	100.0
6) Yankee Fork	121,137	587	0.5	120,560	99.5
7) East Fork	84,135	0	0	84,135	100.0
8) Thompson Creek	30,007	0	0	30,007	100.0
9) Squaw Creek	38,749	0	0	38,749	100.0
10) Bayhorse	21,009	0	0	21,009	100.0
11) Pioneers	245,972	450	0.2	245,522	99.8
12) Arco Hill	30,439	0	0	30,439	100.0
13) Garden Creek	11,303	0	0	11,303	100.0
14) S. Lemhi	79,981	0	0	79,981	100.0
15) S. Lost Rivers	105,155	10	0.1	105,145	99.9
16) Borah Peak	156,220	119	0.1	156,101	99.9
17) Pahsimeroi Mts.	56,906	0	0	56,906	100.0
18) Mackay Front	81,783	2,760	3.4	79,023	96.6
19) N. Pahsimeroi	65,692	0	0	65,692	100.0
20) N. Lemhi	128,362	40	0.1	128,322	99.9
21) Challis	126,236	120	0.1	126,116	99.9
22) Sawmill	64,265	199	0.3	64,066	99.9
23) Furnace Creek	13,975	0	0	13,975	100.0 3/
24) Exclusions	9,191	260	2.8	8,931	97.2 3/
25) Antelope Creek	94,249	287	0.3	93,962	99.7
TOTAL	2,516,191	788,360	31.3	1,727,831	68.7

SPECIAL LEGISLATION:

1/ Frank Church—River of No Return Wilderness

2/ Wild and Scenic River Legislation

3/ Placer mining is also restricted within the Middle Fork of the Salmon River drainage

2. Capability

Capability is determined by industry which responds to trends in the market place. Present technology and economics preclude extraction of some known mineral deposits. Mineral uses and needs are determined by (1) new and/or existing technologies and (2) demand for certain minerals within the market place. The difficulty in predicting where new mineral deposits may be found means that areas capable of mineral or energy exploration and development may someday include the entire Forest, regardless of the present status of the lands.

3) Suitability

Access and physical characteristics of much of the Forest limit location and timing of some types of mineral activities. Restrictions on mineral activity may result from expected or potential impacts on other resources and activities. In the case of oil and gas leasing, some areas may be recommended for "no lease" or for lease with restrictive stipulations. Estimates of acreage for areas affected by these limitations are given in Chapter IV of the EIS.

Site-specific mitigation measures will be developed in response to applications for permit to drill for oil and gas.

There are no known mineable coal deposits on the Forest

b. Current Management Direction

The policy of the Forest is to encourage the development of mineral resources while considering other Forest resources.

The Mining Law of 1872 consolidated earlier laws and established the rights of citizens to explore, claim, and mine certain minerals wherever they are found on public domain lands, including those within the National Forest System unless closed by withdrawal. The minerals covered by this law are called locatable minerals. Congress removed certain minerals from the jurisdiction of the 1872 law and made them leasable minerals under the Mineral Leasing Act of 1920, and 1947 Mineral Leasing Act for Acquired Lands, and the 1955 Multiple Surface Use Act. The Materials Act of 1947 and the 1955 Mining Act gave the Forest Service the authority to sell certain common minerals (sand, gravel, and similar materials) called "saleable minerals."

Minerals on the Challis National Forest are available for exploration and development and are subject to disposal under one of these three categories—locatables, leasables, or saleables, unless specifically restricted.

For locatable minerals, any person proposing to conduct operations that will likely cause significant disturbances of surface resources must file a Plan of Operations with the District Ranger. In the last four years, between 73 and 113 Notice of Intent/Operating Plans were filed each year.

Permits, licenses, or leases for leasable minerals (oil, gas, coal, geothermal, phosphate) are issued every year by the Department of Interior. The Forest has responsibility to perform environmental analysis, recommend action, list stipulations, and propose requirements for rehabilitation. On acquired lands, the Forest Service has authority to deny permits, licenses, and leases.

Saleable minerals are managed by the Forest Service. Permits are issued for use of these materials in accordance with Forest Service policy.

c. Current Situation

Locatables

Significant production of gold, silver, uranium, tungsten, fluorspar, molybdenum, lead, zinc, and copper has occurred from within the Challis National Forest. Sixteen mining districts, or parts of districts, located on the Forest, have reported past production. The number of mines with past and present production is unknown. Value at the time of production for each mining district is shown in Table II-5. Cyprus Mines/Thompson Creek Project, the U.S. Antimony mill at Preachers Cove, and the Sunbeam Mining Project are the largest currently active operations on the Forest. If metal prices increase, more activity is expected to occur. BLM records of actively held mining claims on the Forest as of January 1984 total 7,072 claims. Locatable mineral potential is displayed by management area in Table II-6. Geographic distribution of this potential is shown in Figure II-2.

Leasables

The Challis National Forest has no leases for geothermal, phosphate, coal, sodium, or potassium. Fourteen oil and gas leases totaling almost 25,000 acres are currently in effect on the Forest. Applications have been filed with the BLM for over 100 other leases for approximately 296,000 acres. Activity has been limited to minor geophysical prospecting. Geographic distribution of oil and gas potential is shown in Figure II-3.

Common Varieties

The Challis National Forest has several sources of sand and gravel, building stone, and borrow material sites. Three to five annual permits are issued on the Forest each year for less than 50 tons. Private and BLM land generally supplies higher quality material nearer local markets. No renewable permits have been issued for building stone under special use permits.

d. Expected Future Condition

Mineral development and production is difficult to predict. Many known deposits of valuable minerals are not being fully developed now for economic reasons. Future technology, change in economic conditions, new discoveries, and changing needs will determine where and which minerals will be developed.

Private interests determine where, when and at that rate development occurs. Developments on adjacent BLM administered lands and privately owned lands within or adjacent to the Forest will potentially impact Forest lands and administration.

TABLE II-5

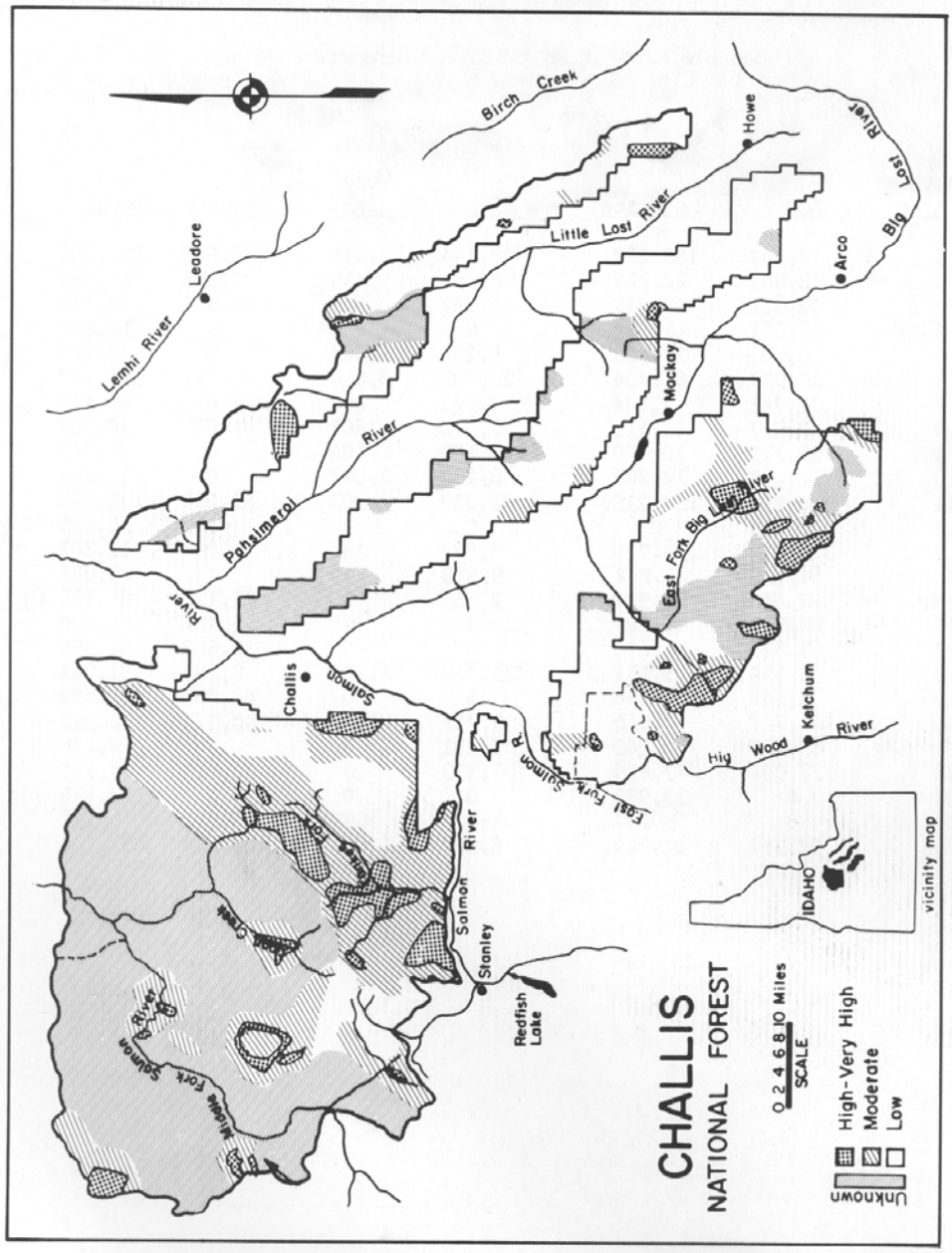
MINERAL PRODUCTION BY MINING DISTRICT (from approximately 1869-1980)

Mining District Name	Management Area	Commodities Present	Value of Historic Production at the Time Of Production
Gravel Range	1,21,23,24	Au, Ag, Opal, Ba, Sb, Sn	$ 100,000
Blue Wing	20	W, Mo, Cu, Pb, Zn	16,000,000
Bayhorse	8,9,10,13	Ag, Pb, Cu, Fl, Ba, Zn, Mo	25,000,000
Parker Mountain	1,24	Ag, Au, Cu, Fl	10,000
Yankee Fork	6	Au, Ag, Pb, Cu	15,400,000
Stanley	4,5	Au, U, Fl, Sb	800,000
Loon Creek	1,24	Au, Ag, Cu, Pb, Ba	2,600,000
Sheep Mountain	1,24	Au, Ag, Pb	500,000
Seafoam	1,2,24	Au, Ag, Pb	314,000
Texas	22	Pb, Ag, Cu, Au, Zn	11,520,852
Hamilton	14	Pb, Ag, Cu	(Small)
Dome	14	Pb, Ag	2,027,216
Alder Creek	18	Cu, Zn, Pb, Ag, W	15,000,000
Copper Basin	11,18,25	Pb, Ag, Cu	50,000
Alto	11,18	W, Pb, Zn, Cu, Ag, Fl, Mo	400,000
Lava Creek	25	Ag, Pb, Zn, W, Sb, Cu	400,000
Pistol Cr. Area	1	W, Au	380,000
		TOTAL	$90,413,748

TABLE II-6.

LOCATABLE MINERAL POTENTIAL BY MANAGEMENT AREA

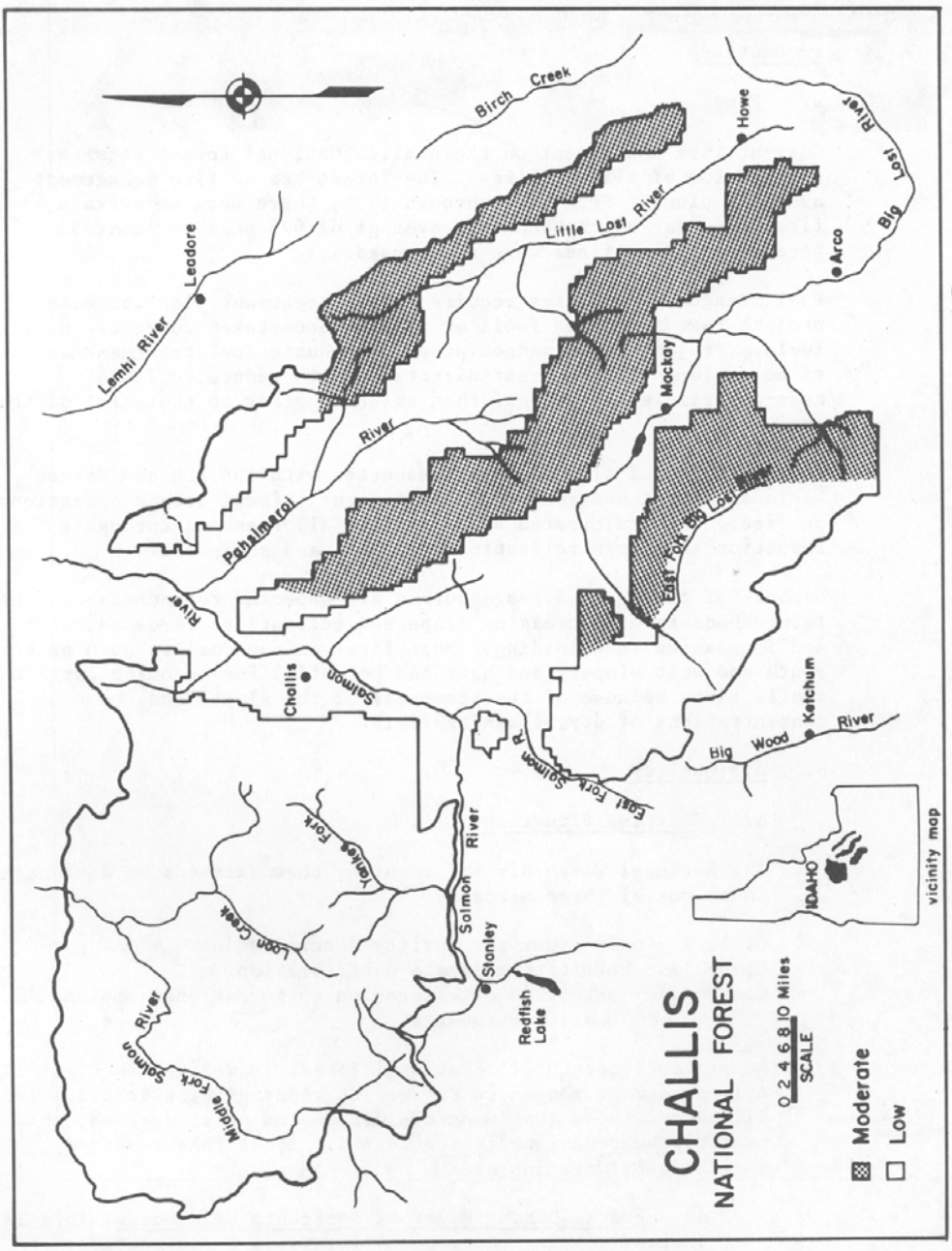
Management Area	Low	Moderate	High	Very High	Unknown	Total
1	7,789	192,239	43,164	3,415	535,648	782,255
2	3,009	22,225	4,457	5,435	2,558	37,684
3	32,926	23,617	4,667	0	12,661	73,871
4	12,061	1,621	0	0	0	13,682
5	6,231	27,003	9,285	1,404	0	43,923
6	19,953	66,764	25,909	8,010	511	121,147
7	71,748	7,744	4,643	0	0	84,135
8	2,717	21,111	5,572	607	0	30,007
9	26,172	10,790	1,687	100	0	38,749
10	78	12,209	6,135	2,587	0	21,009
11	86,792	57,215	43,513	2,902	55,550	245,972
12	30,239	0	0	0	200	30,439
13	868	4,718	5,537	180	0	11,303
14	64,219	7,244	8,518	0	0	79,981
15	82,493	6,928	2,555	0	13,179	105,155
16	92,595	14,204	0	0	49,421	156,220
17	53,521	695	0	0	2,690	56,906
18	42,154	5,151	23,018	3,324	8,136	81,783
19	23,549	558	0	0	41,585	65,692
20	101,747	7,610	5,941	2,191	10,873	128,362
21	83,937	36,048	6,251	0	0	126,236
22	27,054	7,819	7,373	0	22,019	64,265
23	0	13,975	0	0	0	13,975
24	0	3,337	1,629	697	3,528	9,191
25	57,397	11,909	6,290	1,039	17,614	94,294



GENERALIZED LOCATABLE MINERAL POTENTIAL MAP

Figure II-2

II-32



GENERALIZED OIL AND GAS POTENTIAL MAP

Figure II-3

II-33

E. SUPPORT ELEMENTS

1. Protection

a. Fire

Current fire management on the Challis National Forest requires suppression of all wildfires. The Forest has no fire management areas or plans. From 1970 through 1979, there were an average of 47 fires per year which burned an average of 678 acres. About 33 percent of these fires were man-caused.

Fuel management policies require a fuel treatment plan for each project that generates fuels or that is undertaken to reduce natural fuels. Projects that cannot provide adequate fuel treatment are not to be implemented. Current direction is to reduce fuels to near-natural levels or less than existing prior to the start of the activity.

The combining of fire fighting resources with the BLM and Salmon National Forest has resulted in efficient initial attack operations on fires, and has created a savings for all agencies through a reduction and decentralization of forces and equipment.

Numbers of fires and acreage burned are expected to increase in the future because of increasing dispersed recreation, firewood cutting, and increasing fuel loading. Most fires on the Challis burn on the south and west slopes, and have the potential for becoming large and costly fires because of the steepness of the slopes and the concentrations of dry, flashing fuels.

b. Air Quality

1) Existing Situation

The National Clean Air Act requires that airsheds be designated under one of three classes:
Class I – Only minor air quality deterioration.
Class II – Permitted moderate deterioration.
Class III – Permitted deterioration up to National Ambient Air Quality Standards.

At present, the Challis National Forest is designated Class II. All management zones are subject to redesignation to Class I or III except those that Congress designates as wilderness, which can only be redesignated to Class I. Areas that required special consideration are:

a) Frank Church—River of No Return Wilderness. This is currently being recommended for Class I designation, pending approval by the State and Federal agencies.

b) Proposed Wilderness. These areas will be evaluated for possible changes in airshed classification.

Within a developed prescription, about 1,000 acres of sagebrush per year are burned on the Forest. This will not contribute additional pollutants to non-attainment areas (urban areas currently having problems with meeting air quality standards) in other parts of the State. Other sources of pollutants in the Forest are dust from unpaved roads and exhaust from motor vehicles.

2) Trends and Conditions Expected in 2030

The State of Idaho's plan to reduce the pollutant level in non-attainment areas deals primarily with vehicular and industrial emissions, but it also controls prescribed burning on forest and rangelands.

Increased use of wood for home heating in local communities adds air pollution during winter periods when air stagnation occurs. Domestic use of fuelwood has reduced the volume of slash burned on the Forest.

The air quality classification of the proposed wilderness areas will be evaluated in conjunction with the State of Idaho for possible redesignatin to Class I. The visibility standards that accompany the Class I designation could not be met with periodic ignition of large fires, vegetation improvement projects, domestic use of fuelwood, and agricultural development. Designation of the selected wilderness areas as Class I areas could restrict these activities.

c. Insects and Disease

Major insect and disease impacts on the Forest have resulted from two primary species: Western spruce budworm and dwarf mistletoe. Western spruce budworm has recently been active in Douglas-fir and to a lesser extent, in stand of other Forest species. Regeneration loss and reductions in cone crops have seriously reduced the opportunities for natural regeneration.

Approximately 45 percent of lodgepole pine and 40 percent of Douglas-fir stands are infected with dwarf mistletoe. The infected stands experience higher mortality, reduced growth, loss of wood product quality, and higher susceptibility to rots and blow down. Presently, low harvest levels exert insignificant control of dwarf mistletoe on the Forest as a whole. Therefore, these two problems are essentially unaffected by management of the Challis National Forest.

At present harvest levels, timber stands can be expected to decline in vigor and growth. The greater amount of timber in older age classes will contribute to the decadence of stands. Forest insects and diseases will become a greater factor in causing stand mortality with net growth continuing to decline. Wildfire risk will become greater from the additional fuels loading generated by the unmanaged stands.

Stands under management should have minimal impacts from insects and diseases. Prescriptions to manage vegetation, whether in timber production areas or developed sites, are designed to hold pest impacts to or below acceptable levels. Greater timber management will provide proportionate protection from Forest pests.

The Forest has numerous developed public use areas such as campgrounds and picnic areas. Tree hazard reduction programs are utilized to safeguard the public and protect the natural resources at these sites.

d. Law Enforcement

The Forest Service has responsibility to protect resources and provide safe facilities for visitors on National Forest System lands. To redeem this responsibility, the Challis National Forest cooperates with State, local, and other Federal law enforcement agencies. The law enforcement program encourages public compliance with laws and regulations through signing, personal contracts, and the media. It also provides fro protection and safety of Forest users through cooperative agreements with Custer, Butte, and Valley counties.

The Forest's major areas of concern and law enforcement activity are man-caused fires, vandalism, theft of government property and forest products, off-road vehicle use violations, trespass, theft of campground fees, and alcohol and drug related problems associated with large group gatherings.

Property cases involving theft and vandalism at government facilities are due, in part, to remoteness and easy access. It is anticipated that these types of incidents and other law enforcement problems will increase with the growth of the general population.

2. Lands

a. General Discussion

Special classification of land often restricts resource uses and may affect objectives for land acquisition or disposal. Over 85 percent of the land administered by the Challis National Forest is in at least one of the special classifications listed below. Acres in special classifications increased substantially as a result of the Roadless Area re-evaluation prompted by the Ninth Circuit Court of Appeals decision.

Wilderness (Frank Church—River of No Return)	782,255
RARE II Proposed Wilderness	
Borah Peak	119,675
Lemhi	93,068
Pioneer Mountains	44,369
RARE II Further Planning Areas	
White Cloud-Boulder	39,700
Other Roadless Areas to be Analyzed During Forest Planning	1,093,323
Other Withdrawals:	
Middle Fork Wild and Scenic River	33,574
Stock Driveways	2,760
Power Site Withdrawals	46,514
Administrative and Recreation Sites	5,534

In some cases, several special classifications apply to the same acreage. The effect of these special classifications on land management activities cannot be generalized because each allows and restricts specific activities.

Ownership pattern is predominantly National Forest with no isolated lands identified for disposal. The Forest's ability to produce goods and services is unrestricted by current ownership patterns. Lands within the Frank Church—River of No Return Wilderness will be purchased from willing sellers. Scenic easements on about 825 acres along the Middle Fork Wild and Scenic River will be acquired as funding becomes available.

Lack of access is a problem in some areas on this Forest. Topography limits most access to major drainages having roads or trails. Private lands adjacent to the Forest boundary restrict public access; easements on 60 existing roads and trails are needed. Much of the boundary is adjacent to BLM administered land and does not have restricted access. With the Forest, private lands do not significantly restrict access.

Non-recreation special uses on-Forest are identified in the following table:

SPECIAL USE PERMITS

KIND OF USE	TOTAL CASES	TOTAL USES	TOTAL MILES R/W LENGTH	TOTAL ACRES PERMITTED
Agriculture	21	28	5.9	420.3
Industrial	7	7	0	20.8
Research, Study and Training	1	1	0	0.1
Utilities and Communication	25	27	104.6	402.4
Water Use	54	55	31.6	124.5
Total Non Recreation	133	144	212.1	1,166.6
Charge Permits		93		
Non-charge Permits		51		

Interest exists for installation of additional electronics facilities, both at existing sites and on new sites.

Land line location and boundary marking of approximately 635 miles of exterior and interior boundary is needed to reduce resource conflict and potential trespass. At present, management emphasis is not placed on this activity.

b. Research Natural Areas (RNA's)

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. Activities are limited to research, education, and monitoring changes in natural conditions.

The Challis National Forest has two RNA's: Iron Bog and Meadow Canyon, both established in 1981. Meadow Canyon totals 3,880 acres; 285 on the Challis National Forest and 3,595 on the Targhee National Forest. It was designated to protect a large number of unusual and rare plants, and some of the finest alpine tundra in Idaho.

Iron Bog Research Natural Area totals 434 acres adjacent to Iron Bog Creek. It was designated to protect a rare, dry climate sphagmum bog bordered by sagebrush/grass and Douglas-fir climax forest.

A team from the Forest and the Idaho Research Natural Areas Committee identified the following nine sites as proposed Research Natural Areas:

1) Middle Canyon – About 2,200 acres in T6 and 7N, R29E. Contains rare plant species, Great Basin vegetation, limestone cliffs, and fossils. Elevation 5,600 to 10,810 feet.

2) Mahogany Creek – About 3,500 acres in T10N, R22 and 23E. Contains mountain mahogany types, forest types of Douglas-fir, subalpine fir, whitebark and limber pines, high mountain grasslands, and alpine grassland. Elevation 7,980 to 11,828 feet.

3) Merriam Lake Basin – About 750 acres in T9N, R23E. Contains varied alpine, including tundra, vegetation typical of sites 2,400 miles to the north, truly alpine (above timberline) natural lakes, and numerous rare plant species. Elevation 9,400 to 11,312 feet.

4) Sheep Mountain – Includes land on the Salmon and Targhee National Forests, and 278 acres on the Challis National Forest in T12N, R27E. Contains vegetation growing on a variety of substrate in adjacent sites, at an elevation of about 10,865 feet.

5) Surprise Valley – Approximately 1,470 acres in T6N, R20 and 21E. Large wet meadows, small lakes, alpine communities in exceptionally good condition. Elevation 9,000 to 11,878 feet.

6) Smiley Mountain – About 2,260 acres in T4 and 5N, R22E. Large, wet meadows, small lakes, and alpine communities in extremely good condition at elevations between 9,000 and 11,878 feet.

7) Cache Creek Lakes – About 2,000 acres in T17N, R15E within the Frank Church—River of No Return Wilderness. Aquatic and terrestrial systems associated with soils derived from volcanic rock at elevations between 7,800 and 9,880 feet.

8) Soldier Lakes – About 175 acres in T14N, R10E within the Frank Church—River of No Return Wilderness. Aquatic types in high elevation lakes and subalpine fir forest on granitic rocks at elevations over 9,000 feet.

9) Mystery Lake – About 465 acres in T13N, R14E within the Frank Church—River of No Return Wilderness. Subalpine fir habitat types, alpine communities, lakes, and wet meadows on volcanic and granite rock substratum. Elevation 9,000 to 10,329 feet.

3. Soils

The soils on the Challis National Forest are highly variable, depending on the interaction of climate (particularly temperature and precipitation), native vegetation, nature of the parent material (texture/structure, chemical/mineralogical composition), topography (slope, elevation and aspect), and the geologic time the parent materials have been subjected to soil formation. The diversity of all these soil-forming factors have produced a varied mixture of soil patterns.

The soils on the forest were formed from four types of parent material. These parent materials have been influenced by many geomorphic processes which help reflect the varied soil types. Glaciation, volcanism, alluviation, colluviation, regional uplifting, folding and faulting are some of the processes which have occurred on the Forest.

Most of the forest soils were formed from Challis Volcanics consisting igneous extrusives; mainly andesites, rhyolites and tuffs. These soils are generally medium to fine textured, moderate to high productive potential, and moderate to severe water erosion hazard on disturbed sites. Soils derived from volcanic parent materials occur dominantly on the eastern side of the west half of the Forest; the Pahsimeroi Mountains; and the Herd Peak/Copper Basin/Antelope Creek vicinity.

The second largest complex of soils on the Forest were formed from igneous intrusive parent material of the Idaho Batholith. This parent material consists mainly of quartz monzonites and granodiorites. Soils are generally coarse textured and can be very erodible on steep slopes. Granitic soils occur dominantly on the western side of the west half of the Forest; and in localized areas within the Boulder/Pioneer Mountains.

Sedimentary parent materials occur dominantly within the Lost River Range; Southern Lemhi Mountains; and the south-eastern corner of the west half of the Forest. This parent material consists mainly of sandstones and limestones. Soils are generally medium textured, moderate to high productive potential, and moderate water erosion hazard.

Metamorphic parent materials occur dominantly within the northern half of the Lemhi Mountains. This parent material consists mainly of quartzites. Soils are generally medium textured, moderate to high productive potential, and moderate water erosion hazard.

Metamorphic parent materials occur dominantly within the Lost River Range; Southern Lemhi Mountains; and the south-eastern corner of the west half of the Forest. This parent material consists mainly of sandstones and limestones. Soils are generally medium textured, moderate to high productive potential, and moderate water erosion hazard.

Due to the variability of the soils on the Forest, on-site investigations are normally needed to determine the interaction of the various soil forming factors and their response to management induced manipulations. Currently, the Forest is lacking sufficient soils information to have it strongly incorporated into this phase of the Forest Plan. Portions of the Forest have been broadly inventoried by landtype. This information was used to its capability within this phase of the Plan.

A detailed Soil Resource Inventory was initiated on Forest in 1983. The purpose of this inventory is to gain needed information for land use planning and initial evaluation of project level work. Soil loss, soil loss tolerance and sediment predictions can be established only when

Detailed soil information is available. Currently, 200,000 acres have been inventoried. The Forest has made a commitment to complete this inventory by the end of the second planning decade. This information will be strongly incorporated within future planning efforts. In the interim, detailed soil inventories and interpretations will be conducted prior to site-disturbing activities to assure that the soil resource is protected during this planning period. Furthermore, Forest-wide Soil Standards and Guidelines, along with "Best Management Practices," were developed to further protect the soils resource.

4. Facilities

The Challis National Forest has numerous facilities including roads, bridges, administrative sites, buildings, dams, and water systems. They require considerable time and money for operation and maintenance. There has been large investment in these facilities to enable the development, protection, and use of Forest resources.

The administrative sites and buildings on this Forest are old and show signs of having outlived their intended life. An aggressive program of replacement, maintenance, and/or disposal is needed.

Some forest water systems, use by both the public and Forest employees need major maintenance or reconstruction.

Challis National Forest maintains three backcountry airfields, thirteen helispots, and the Challis air service facility. The back country airfields are heavily used for recreation by outfitters, boater and other publics. Current maintenance activities are not satisfactory and the condition of the airfields continues to deteriorate.

a. Transportation

The existing transportation network of 1,705 miles of Forest development roads are generally in a continuing state of deterioration, especially road surfacing. Increases in Forest activity from mining, recreationists, and fuelwood seekers have put an additional strain on the network that cannot be ignored for long.

The investment in several roads or sections of roads has already been lost. The current program accomplished about 400 miles of work per year. Repairs are made on the most serious problems on a priority basis. Maintaining roads at the present levels will result in a deteriorating road network.

b. Administrative Sites, Buildings, and Support Facilities

Fifty-nine percent are service/storage, 31 percent are dwellings, 5 percent are offices, 5 percent are other uses. Eleven percent are new structures less than five years old or recently renovated with 25-plus year of life, 9 percent are 6 to 20 years old with 20-plus year of life, 18 percent are 21 to 35 years old with 10-plus years of life, and 60 percent are 35 years old or older with 5-plus years of life, or they are obsolete, and require immediate replacement. This stratification assumes routine maintenance continues.

There are 115 buildings used as offices, residences, warehouses, and lookouts located on 34 administrative sites.

Many facilities were built in the days of the Civilian Conservation Corps. These compounds and buildings are cultural resource sites which are currently being evaluated for inclusion in the National Register of Historic Places. Building sizes, capabilities and physical conditions do not meet with present-day use requirements or codes. With buildings approaching fifty years old, the lasting integrity is in doubt, the wiring is outdated (potentially dangerous) and most buildings use energy inefficiently.

Potable water is available for use at twenty administrative sites. In most cases, source protection, flow quantities, pipe size or other conditions are inadequate to meet State and Federal codes and present uses. Water systems at recreation sites suffer the same problems. At low level funding, many of the water systems are closed.
There are two high hazard dams, four low hazard dams and one fish ladder on the Forest. Three dams belong to the Forest, with the remaining dams and fish ladder being under special use permits. Three low hazard dams are fishery improvements. The remainder are irrigation impoundments.

5. Corridors

a. Highway

Federal Highways 93 and 26, and State Highways 21, 22, and 33 provide access to the Forest. All of these highways provide access to the area from major population centers. Idaho State Highway 21 crosses about 13 miles of the Forest between Banner Summit and Trap Creek near Cape Horn. Deep snows normally close this road each winter near the Forest boundary north of Stanley, however the State Highway Department kept this section oped during the winters of 1983-1984 and 1984-1985. This road is in good condition except for frost heaves which develop each spring. Current traffic needs are adequately met by the existing highway system and realignment or reconstruction is not anticipated in the future. Forest roads are discussed in the Transportation section.

b. Utilities

Presently no utilities corridors have been designated. New proposals will be evaluated when the need arises.

The term "corridor" applies to any form of energy transportation (electric transmission, pipeline, or combination thereof) that is the primary use of the land. By this definition, no utility corridors now exist on the Challis National Forest. Appendix D of the EIS discusses current utility rights-of-way on-Forest. These supply the user needs and have very little potential for needing future expansions. Rugged topography and lack of sufficient market have resulted in location of utility corridors south of the Forest crossing the Snake River Plain. A major increase in mining activity resulting in greater electricity demand or significant oil or gas discoveries requiring petroleum pipelines would be needed to change the situation.

F. SUPPLY AND DEMAND CONDITIONS

Table II-7 summarizes maximum production potentials for significant individual goods and services as displayed in appropriate benchmarks. Production levels attainable under current management direction and the projected demand conditions are also displayed in this table.

G. RESEARCH NEEDS

No research needs have been identified for the Challis National Forest at this time. However a total of 11 Research Natural Areas will be established to provide baseline data for future studies when research needs are identified.

H. NEED TO ESTABLISH OR CHANGE MANAGEMENT DIRECTION

1. Recreation

Developed – Emphasize maintenance of existing sites to protect investments.

Evaluate recreation site for additions, reconstruction or elimination.

Dispersed – Increase trail maintenance program to correct deteriorating and unsafe conditions. Need to evaluate trailhead improvement and construction.

Emphasize a wide variety of dispersed recreation opportunities.

2. Wildlife and Fish

Provide habitat within the capability of the Forest for the recovery of the gray wolf, and other Threatened and Endangered Species.

Correct activity caused sedimentation problems in key anadromous fish streams.

Resolve conflicts between wildlife and other resources with emphasis on key habitats.

3. Range

Obtain more permittee involvement and coordinated management.

Improve administration of allotments.

Determine current livestock grazing capacities.

4. Water

Complete instream flow determinations for critical stream reaches.

5. Soil

Complete Level III Soil survey for the Forest.

Initiate and complete watershed improvement needs projects.

6. Cultural Resources

Prepare the following cultural resource plans: 1) A comprehensive Forest-wide overview; 2) a predictive model identifying areas requiring intensive inventories; 3) an evaluation and nomination plan for sites eligible for inclusion on the National Register of Historic Places; 4) and a plan for establishing measures for the protection of significant sites from vandalism and natural deterioration. These plans will be updated as needed.

7. Fire

Provide for the completion of fire area management planning.

8. Lands

Obtain rights-of-way on all existing roads and trails.

Increase the Land Line Location program with emphasis on resolving trespass when Forest activities border private land, and providing adequate maintenance of boundary lines.

9. Facilities – Transportation

Initiate a road reconstruction program to bring present arterial and collector roads to a maintainable condition.

Evaluate administrative facilities.

10. Riparian

Develop a riparian management program.

11. Timber

Initiate more intensive management on selected commercial timber lands.

TABLE II-7. CURRENT OUTPUTS, PROJECTED DEMAND, SUPPLY POTENTIAL.

ACTIVITY CATEGORY	UNITS	CURRENT LEVEL (1982)		1990	2000	2010	2020	2030
DEVELOPED REC. USE – PUBLIC	MRVD's							
Supply Potential				291	291	291	291	291
Max. Use From Max PNV Market Benchmark				95	122	122	122	122
Regionally Assigned Objective.			75	80	93	106	120	
Current Program.		85		78	101	101	101	101
DISPERSED REC. USE.	MRVD's		Exceeds expected demand. Potentially					
Supply Potential				May be exceeded for specialized uses or In heavily used areas				
Max. Use From Min Level Benchmark.				460	600	600	600	600
Regionally Assigned Objective.			395	430	480	530	580	
Current Program		336		355	443	443	443	443
WILERNESS	MRVD's		Exceeds expected demand. Potential					
Supply Potential				May be exceeded in heavily used areas.				
Max. Wilderness Benchmark.				373	448	448	448	448
Regionally Assigned Objective.			No objectives assigned					
Current Program		136		180	204	204	204	204
ACTUAL LIVESTOCK USE	MAUM's							
Demand Trends				Demand for cattle use exceeds supply.				
Max. Range Benchmark.				114	119	126	126	126
Regionally Assigned Objective (permitted use).			117	118	118	119	119	
Current Program.		112.4		113	113	112	112	112
COMMERCIAL TIMBER SALES OFFERED	MMBF							
Demand Trends.				Local demand is currently less than 3 MMBF. Regional demand is somewhat Elastic depending on transportation Costs for competing sales.				
Max. Timber Benchmark				40.1	40.1	40.1	40.1	40.1
Regionally Assigned Objective.			8	10	10	10	11	
Current Program.		3		3.5	5	5	5	5
WATER YIELD (Meeting State Quality Standards)	M Ac Ft							
Demand Trends				100% of water yield for consumptive And non-consumptive needs.				
All benchmarks except Min. Level.				2463	2463	2463	2463	2463
Regionally Assigned Objective.				2293	2293	2293	2293	2293
Current Program				2365	2365	2463	2463	2463

CHAPTER 111

PLAN RESPONSES TO ISSUES, CONCERNS, AND OPPORTUNITIES

This chapter shows how the proposed Plan addresses and responds to major public issues, management concerns, and resource opportunities that have been identified during the planning process.

A discussion of the process used to identify the issues to be resolved in this Plan is found in Appendix A of the accompanying EIS. Additional information may be found in the public involvement records of the Challis National Forest.

The specific methods for resolving and implementing management actions for the 14 issues dealt with are found in Chapter IV of this Plan. In that chapter the Forest's multiple-use goals and objectives are listed, as are the multiple-use prescriptions and associated standards and guidelines for each management area. Included with the management area discussion are the proposed and probably management practices.

The Plan's response to the 14 issues in as follows:

ISSUE #1: Integrate Resource Outputs

Through the Forest planning process, 11 Forest management alternatives were formulated which, collectively, would produce a wide range of forest products. These alternatives were analyzed to determine their effects on the National, Regional, and local social, economic, physical, and biological environment. From this analysis, a preferred alternative was selected which identifited a level of management that provides for a mixture of both commodity and non-commodity outputs and products. The production is based on an increased level of resource coordination by which a multitude of goals and objectives will be met under one, or many, resource activities. Management direction for each resource within each of the 25 management areas has been specifically established, based on the resource capability levels and the needs of the general public and other Forest users.

ISSUE #2: Management of Riparian Areas

The Forest Plan establishes some management direction, standards and guidelines for governing activities within riparian areas. Additional and more specific standards and guidelines for the various community types will be developed in conjunction with adjacent Forests and supplementary to the Forest Plan. There will be an intensive effort to inventory, monitor, and evaluate physical and biological conditions within these vegetative communities.

ISSUE #3: Wildlife and Fishery Management

The Forest Plan has identified a coordinated level of management for all Forest activities which will allow for meeting or exceeding habitat needs of wildlife and fish managed by the Idaho Department of Fish and Game. Emphasis has been placed, not only on the coordination with other resource activities, but also on the identification and management of key and limiting habitats to resolve conflicts with other resources. The Plan has also provided for the special consideration, protection, and management of essential habitats occupied by plants and critical habitats of animals federally classified as Threatened or Endangered.

The Plan has identified the need to closely monitor and regulate sediment producing activities which may affect fish habitat capability in fishery producing stream courses. The Plan calls for deferment of timber harvest activities in drainages which are currently near or at unacceptable levels of sedimentation in anadromous stream courses. Fishery and watershed restoration projects are identified in the Forest Action Schedule to reduce these high levels of sedimentation.

ISSUE #4 Fuelwood Management

The Forest Plan has established management direction to provide access to 500,000 cubic feet or 3,906 cords of green or dry fuelwood annually for both commercial and public use, which meets or exceeds current demand. Both charge and free use areas will be available on the Forest.

ISSUE #5 Minerals Management

Mining claims and mineral leases will be restricted by current administrative withdrawals and wilderness designation.

Approximately 563,530 acres contains moderate to high potential for mineral development, of which 98 percent will be available. A significant increase of mineral development is projected for the future. Oil and gas leases or renewals will not be recommended in proposed wilderness areas. Specific oil and gas lease stipulation have been identified, in Chapter IV of this Plan, for some management areas. The list of stipulations that may be applied to individual leases and guidance for their use is contained in Appendix E, and Forest-wide Standards and Guidelines in Chapter IV.

Changes in locatable mineral activity will not be affected by the Forest Plan. The number of cases that the Forest will respond to will be governed by the increase or decrease in demand.

ISSUE #6: Motorized Vehicle Management

The Forest Plan allows for a Challis National Forest Travel Plan. The current plan is available in the Supervisor's Office and addresses travel restrictions on the Forest. In addition, the Forest Plan has established specific management prescriptions and additional standards and guidelines for road and off-road vehicle management in Chapter IV.

ISSUE #7: Road, Trail, and Facilities Management

The Forest Plan has established management direction, including site-specific trail inventory and maintenance needs, for each of the 25 management areas. Trailhead facilities will be rehabilitated and new construction will be planned as demand indicates. Trails will be upgraded and maintained at levels sufficient to meet safety needs and provide quality recreation experiences. Trails will generally be maintained to an acceptable standard with a 25 percent increase in the number of miles maintained.

The Plan allows for facility master plan, which will address specific administrative or other facility construction or repair needs, and a program for the removal of unnecessary structures.

Road maintenance and reconstruction has been given added emphasis. The Plan establishes management direction to maintain an additional 142 miles of Forest roads and programs for reconstructing 12.5 miles of local arterial or collector roads yearly.

ISSUE #8: Maintenance of Water Quality and Instream Flow

Management of the soil and water resource has been given increased emphasis in the Forest Plan. Specific management direction, specifying intensities and amounts of soil and watershed inventories, water quality and soil productivity monitoring, and determinations of instream flow needs has been identified for each of the management areas. The Forest has established soil and water standards and guidelines, encompassing all Forest activities which may impair water quality or soil productivity. Timber harvest scheduling has been deferred through the first decade in Herd and Valley Creek drainages to improve watershed conditions.

ISSUE #9: Timber Management

The Forest Plan identifies an average annual timber harvest schedule of 3 million board feet for the first decade. The post and pole harvest levels will be maintained at approximately 85.5 thousand board feet annually. This timber and post and pole harvest appears to be the most economical level considered and could eventually place 96 thousand acres under intensive management. This level of management will increase sustained yield, reduce the probability of insect and disease infestation, and reduce the occurrence of large wildfires on these areas. The 3 million board feet harvest will accommodate local demand.

ISSUE #10: Fire Management

The Forest Plan has provided for a necessary level of fire prevention, detection, and suppression activities, which are cost effective in protection of resource values. Because the Forest has not completed the fuel inventory for fire area management planning, no areas have been designated for use of planned ignitions or prescribed fire. An Area Fire Management Plan has been developed for the Frank Church—River of No Return Wilderness. Plans for other priority areas will be developed during the first decade.

Management direction establishing policy for prescribed burns has been identified in the management prescriptions and standards and guidelines.

ISSUE #11: Range Management

The Forest Plan will allow for an average of 115,000 AUM's of permitted use within the first decade. It is anticipated that range conditions will continue to improve through better allotment management and development. This will provide for small increases in livestock grazing as well as increases in wildlife populations. Range management will be coordinated with other interest groups.

The Forest Plan has identified specific management direction for range in the monitoring, evaluation, and resolution of livestock impacts on riparian vegetation. It has also provided specific goals and standards and guidelines for the management of livestock within these habitats.

ISSUE #12: Recreation Management

The Forest Plan provides direction to manage a balanced mixture of recreational opportunities in both wilderness and non-wilderness areas. Emphasis has been placed on dispersed recreation and on improving the Forest's existing campground facilities.

ISSUE #13: Wilderness Additions

Portions of the Borah Peak (119,000 acres), Boulder/White Clouds (34,000 acres), and Pioneer Mountains (48,000 acres) roadless areas are proposed for inclusion into the Wilderness Preservation System. When the Plan is revised in 10 years, the remaining undeveloped areas will be re-evaluated for their wilderness characteristics and reconsidered for proposed wilderness.

ISSUE #14: Roadless Management

The following roadless areas are not proposed for wilderness, and are not scheduled for timber harvest or roading prior to the planning update in 1996. Some roading and development associated with mineral activity may occur within these areas.

1. 903 – Lemhi Range
2. 006 – Spring Basin
3. 007 – Greylock
4. 009 – Seafoam
5. 010 – Grouse Peak
6. 013 – King Mountain
7. 014 – Jumpoff Mountain
8. 916 – Red Mountain
9. 017 – Porphyry Peak
10. 019 – Copper Basin
11. 922 – Railroad Ridge
12. 923 – Blue Bunch
13. 024 – Warm Creek
14. 025 – White Knob
15. 026 – Cold Springs
16. 027 – Red Hill
17. 028 – Wood Canyon
18. 601 – Diamond Peak