

United States  
Department of  
Agriculture

Forest Service

Nez Perce  
National Forest



# Nez Perce National Forest Plan Final Environmental Impact Statement



Final Environmental  
Impact Statement

Final Nezperce  
National Forest  
Plan

-----  
Type of  
Action

-----  
Administrative

-----  
Responsible  
Official

-----  
James C. Overbay  
Regional Forester  
Northern Region  
USDA Forest Service  
P.O. Box 7669  
Missoula, Montana 59807

Responsible  
Federal Agency

USDA Forest Service

Abstract: This final environmental impact statement describes the Preferred Alternative and other alternatives for managing the land and resources of the Nezperce National Forest. The 2.2 million acres of National Forest land are located in Idaho County, Idaho. The alternatives provide a range and mixture of Forest goods and services. Environmental consequences for the Preferred Alternative and other alternatives are displayed.

For Additional  
Information

TOM KOVALICKY  
Forest Supervisor  
Nezperce National Forest  
Rt. 2, Box 475  
Grangeville, Idaho 83530  
(208) 983-1950

OCT 1987

---

# TABLE OF CONTENTS

---

	<u>PAGE</u>
SUMMARY.....	1
CHAPTER I. PURPOSE AND NEED FOR ACTION.....	I-1
A. Introduction.....	I-1
B. National, Regional, and Forest Planning.....	I-1
C. Planning Area.....	I-2
1. General.....	I-2
2. Special Interest Areas.....	I-5
D. Special Planning Requirements.....	I-6
1. Gospel-Hump Multipurpose Resource Development Plan.....	I-6
2. Contiguous Roadless Areas.....	I-6
E. Public Involvement.....	I-6
F. Changes Between the Draft and Final EIS and Forest Plan.....	I-14
1. Economics.....	I-14
2. Vegetative Practices.....	I-15
3. Alternatives.....	I-15
4. Roadless Areas.....	I-16
5. Monitoring Plan.....	I-16
6. Timber Utilization Standards.....	I-16
7. Wildlife and Threatened and Endangered Species.....	I-17
8. Research Natural Areas.....	I-17
9. Recreation.....	I-17
10. Wild & Scenic Rivers.....	I-18
11. Minerals.....	I-18
12. Small Hydro.....	I-18
13. Plan Period.....	I-18
14. Editorial Changes.....	I-18
G. Reader's Guide.....	I-19
CHAPTER II. ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE.....	II-1
A. Introduction.....	II-1
B. Alternative Development.....	II-2
1. Overview.....	II-2
2. Analysis of the Management Situation.....	II-3
3. Range of Alternatives.....	II-10
C. Description of Alternatives.....	II-15
1. Alternative A (Current Direction).....	II-18
2. Alternative C.....	II-22
3. Alternative D.....	II-26
4. Alternative E.....	II-30
5. Alternative F.....	II-34
6. Alternative G (Preferred Alternative).....	II-38
7. Alternative G1.....	II-43
8. Alternative H.....	II-47
9. Alternative H1.....	II-51
10. Alternative I.....	II-56
11. Alternative J.....	II-60
12. Alternative K.....	II-64
13. Alternative L.....	II-68

---

---

TABLE OF CONTENTS

---

D.	Comparison of Alternatives.....	II-72
1.	Recreation.....	II-72
2.	Wilderness, Recommended Wilderness, and Roadless Areas.....	II-73
3.	Visual Quality.....	II-80
4.	Research Natural Areas.....	II-82
5.	Wildlife.....	II-82
6.	Fish.....	II-91
7.	Range.....	II-105
8.	Timber Harvest.....	II-106
9.	Silvicultural Systems.....	II-119
10.	Watershed.....	II-125
11.	Minerals.....	II-127
12.	Road System.....	II-130
13.	Fire Management.....	II-130
14.	Energy Consumption.....	II-131
15.	Issues Considered in Alternatives.....	II-131
16.	Economic and Social Impacts in the Regional Area.....	II-151
17.	Net Public Benefit and Nonpriced Benefits Addressed in the Alternatives.....	II-163
18.	Significant Differences in Economic Values Among Alternatives.....	II-168
19.	Major Tradeoffs Among Alternatives.....	II-178
<b>CHAPTER III.</b>	<b>AFFECTED ENVIRONMENT.....</b>	<b>III-1</b>
A.	Physical, Biological, Social, and Economic Settings.....	III-1
1.	General Setting.....	III-1
2.	Physical Setting.....	III-2
3.	Biological Setting.....	III-3
4.	Social and Economic Setting.....	III-3
B.	Current Resource Situation.....	III-8
1.	Recreation.....	III-8
2.	Cultural Resources.....	III-12
3.	Wilderness and Roadless Areas.....	III-12
4.	Current and Eligible Wild and Scenic Rivers.....	III-23
5.	Research Natural Areas.....	III-30
6.	Visual Quality.....	III-32
7.	Wildlife.....	III-34
8.	Threatened and Endangered Plants.....	III-44
9.	Fisheries.....	III-44
10.	Range.....	III-46
11.	Timber.....	III-47
12.	Soils and Geology.....	III-49
13.	Watershed.....	III-50
14.	Minerals.....	III-51
15.	Human and Community Development.....	III-53
16.	Land Location, Ownership, and Special Uses.....	III-54
17.	Facilities.....	III-54
18.	Protection.....	III-57
19.	Air Quality.....	III-59

---

<b>CHAPTER IV. ENVIRONMENTAL CONSEQUENCES.....</b>	<b>IV-1</b>
A. Introduction.....	IV-1
B. Programs and Activities and Their Associated Effects.....	IV-4
1. Wilderness.....	IV-4
2. Developed Recreation.....	IV-5
3. Dispersed Recreation.....	IV-6
4. Roadless Management.....	IV-11
5. Research Natural Areas.....	IV-13
6. Cultural Resources.....	IV-13
7. Threatened and Endangered Plant and Animal Species.....	IV-15
8. Wildlife Habitat Improvement.....	IV-18
9. Fish Habitat Improvement.....	IV-21
10. Minerals.....	IV-23
11. Social and Economic Impact.....	IV-26
12. Special Uses.....	IV-27
13. Rights-of-Way.....	IV-29
14. Property Boundary Location.....	IV-29
15. Land Ownership and Adjustment.....	IV-30
16. Buildings and Other Facilities.....	IV-30
17. Fire Prevention and Suppression.....	IV-31
18. Managed Fire.....	IV-33
19. Range Management Activities.....	IV-34
20. Utility Transportation Corridors.....	IV-37
21. Insects and Disease.....	IV-38
22. Timber Harvest.....	IV-41
23. Logging Methods.....	IV-59
24. Slash Control.....	IV-70
25. Site Preparation.....	IV-73
26. Reforestation.....	IV-74
27. Timber Stand Improvement.....	IV-76
28. Road System.....	IV-78
29. Watershed Improvement and Maintenance.....	IV-89
 <b>CHAPTER V. LIST OF PREPARERS.....</b>	 <b>V-1</b>
 <b>CHAPTER VI. CONSULTATION WITH OTHERS.....</b>	 <b>VI-1</b>
A. Introduction.....	VI-1
B. Consultation With Others Between the Draft and Final Environmental Impact Statement.....	VI-1
1. Summary of Public Participation Activities.....	VI-1
2. Public Comments Received.....	VI-2
3. How Public Comments Were Used.....	VI-4
4. Summary of Public Comments.....	VI-5
5. Index of Comment-Letters and Subjects.....	VI-28
C. Agency, Elected Official, and Indian Tribe Comments and the Forest Service Response.....	VI-53
D. List of Agencies, Organizations, and Persons to Whom Copies of This Statement Have Been Sent.....	VI-159

---

TABLE OF CONTENTS

---

CHAPTER VII. GLOSSARY..... VII-1

CHAPTER VIII. INDEX..... VIII-1

CHAPTER IX. REFERENCES..... IX-1

APPENDICES

A. Identification of Issues, Concerns, and Opportunities..... A-1

B. Description of the Analysis Process..... B-1

C. Roadless Area Evaluation..... C-1

D. Additional Analysis on the Preferred Alternative.....D-1

LIST OF FIGURES

I-1 Vicinity Map-Nezperce National Forest..... I-3

II-1 Range of Alternatives' Responsiveness to Major Issues..... II-12

II-2 Wilderness, Routed, and Roadless Lands..... II-73

II-3 Visual Quality Objectives..... II-81

II-4 Projected Old Growth on Existing Nonclassified Lands in  
50, 100, and 150 years..... II-90

II-5 Resident Trout Habitat Capability..... II-92

II-6 Anadromous Fish Habitat Capability..... II-93

II-7 Potential Livestock Forage..... II-105

II-8 Average Annual Timber Harvest (Million Cubic Feet)..... II-106

II-9 Average Annual Timber Harvest (Million Board Feet)..... II-107

II-10 Suitable Timberland..... II-110

II-11 Harvest Volume by Silvicultural Method-First Decade..... II-124

II-12 Harvest Acreage by Silvicultural Method-First Decade..... II-124

II-13 Annual Sediment Yield..... II-125

II-14 Annual Water Yield..... II-126

II-15 Comparison of Alternative C to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-144

II-16 Comparison of Alternative D to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-144

II-17 Comparison of Alternative E to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-145

II-18 Comparison of Alternative F to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-145

II-19 Comparison of Alternative G (Preferred Alternative) to Alter-  
native A (Current Direction), Change in Decade 1 Outputs.. II-146

II-20 Comparison of Alternative G1 to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-146

II-21 Comparison of Alternative H to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-147

II-22 Comparison of Alternative H1 to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-147

II-23 Comparison of Alternative I to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-148

II-24 Comparison of Alternative J to Alternative A (Current  
Direction), Change in Decade 1 Outputs..... II-148

---

II-25	Comparison of Alternative K to Alternative A (Current Direction), Change in Decade 1 Outputs.....	II-149
II-26	Comparison of Alternative L to Alternative A (Current Direction), Change in Decade 1 Outputs.....	II-149
II-27	Comparison of Maximum Present Net Value to Alternative A (Current Direction), Change in Decade 1 Outputs.....	II-150
II-28	Comparison of Minimum Level to Alternative A (Current Direction), Change in Decade 1 Outputs.....	II-150
II-29	Local Forest-Related Employment and Income-Decade 1 Change from 1980.....	II-152
II-30	Average Annual Returns to States.....	II-155
II-31	Present Net Value.....	II-171
II-32	Average Annual Returns to the U.S. Treasury.....	II-174
II-33	Decade 1 Average Annual Costs.....	II-175
II-34	Discounted Benefits and Costs.....	II-176
II-35	Decade 1 Average Annual Market and Nonmarket Values.....	II-177

LIST OF TABLES

II-1	Roadless Inventory Adjustments Since 1979.....	II-75
II-2	Wilderness Recommendations for Roadless Areas by Alternative..	II-78
II-3	Management Emphasis for Roadless Areas.....	II-79
II-4	Visual Quality Objectives of Areas to be Harvested in Each Alternative.....	II-81
II-5	Carrying Capacity of Elk Winter and Summer Habitat by Decade.....	II-86
II-6	Vegetative Treatment on Elk Winter Range.....	II-87
II-7	Elk Summer Habitat Remaining on NonWilderness Lands After Livestock Grazing and Road construction, Decades 1-5.....	II-88
II-8	Big-Game Security Areas on Summer Habitat on Existing Nonclassified Lands.....	II-89
II-9	Total Smolt Production for Steelhead Trout and Chinook Salmon. Planned in Decade 1, Projected in Decade 3.....	II-94
II-10	Forest Fishery/Water Quality Objectives by Alternative.....	II-95
II-11	Range of Potential Demand and Range of Supplies (MMBF/Year)...	II-108
II-12	Range of Potential Demand.....	II-108
II-13	Range of Potential Demand and Forest Plan Harvest Level.....	II-109
II-14	ASQ Components.....	II-111
II-15	Comparison of Current vs. Regional Guide Utilization Standards	II-112
II-16	Comparison of Timber Volume (MCF and MBF), Present Net Value, and Acres Assigned to Timber Between the Current and Regional Guide Utilization Standards.....	II-112
II-17	Current Utilization Standards - Board Foot Volume Decade 1.....	II-114
II-18	Proposed Utilization Standards - Board Foot Volume Decade 1.....	II-114
II-19	Current Utilization Standards - Board Foot Volume Decade 5.....	II-115

TABLE OF CONTENTS

II-20	Proposed Utilization Standards - Board Foot Volume Decade 5.....	II-115
II-21	Timber Inventory and Growth.....	II-116
II-22	Timber Yields.....	II-118
II-23	Locatable Mineral and Leasable Energy Resource Potential.....	II-128
II-24	Planned First Decade and Projected Second Decade Road Construction and Total Road System.....	II-130
II-25	Average Annual Energy Consumption, First Decade.....	II-131
II-26	Comparison of Alternatives for Response to Major Issues and Concerns.....	II-132
II-27	Changes in Employment and Income by Key Economic Sector - Decades 1 and 5.....	II-153
II-28	Summary of Social Impact - Analysis of Alternatives.....	II-156
II-29	Present Net Value and Discounted Costs and Benefits by Alternative.....	II-169
II-30	Discounted Benefits and Costs for Resource Groups.....	II-170
II-31	Average Annual Net Returns to the Treasury .....	II-173
II-32	Indicators of Responsiveness of Alternatives to Major Issues and National Concerns.....	II-182
II-33	Resource Production by Alternatives and Benchmarks.....	II-221
III-1	Forest Stratification.....	III-2
III-2	Forest Receipts.....	III-7
III-3	Forest Budget, Fiscal Year 1980.....	III-8
III-4	Classified Wilderness.....	III-13
III-5	Selected Resource Values-Nezperce National Forest Roadless Areas.....	III-16
III-6	Forest Classified Rivers.....	III-23
III-7	Research Natural Area Objectives.....	III-31
III-8	Bald Eagle Occupied Essential Habitat.....	III-40
III-9	Wolf Sighting Reports from 1947 to 1983.....	III-42
III-10	Criteria for Categorizing Wolf Observations.....	III-43
III-11	Threatened and Endangered Plant Species.....	III-44
III-12	Timber Program Sale Quantity and Volume Sold - Fiscal Years 1974-1983.....	III-47
III-13	Stratification of Tentatively Suitable Timberlands.....	III-48
III-14	Relative Importance of Minerals.....	III-53
III-15	Fire History, 1976 to 1985.....	III-57
III-16	Mountain Pine Beetle Infestation, 1979 to 1983.....	III-58
IV-1	Established and Proposed Wilderness.....	IV-4
IV-2	Anticipated Use at Developed Sites.....	IV-5
IV-3	Area Projected to be Available for Primitive, Semiprimitive,.. and Roaded Natural Recreation in Decade 15.....	IV-8
IV-4	Dispersed Recreation Capacity by ROS Setting.....	IV-9
IV-5	Potential Hunter Recreational Visitor Days.....	IV-10
IV-6	Energy Used in Dispersed and Wilderness Recreation - First Decade.....	IV-11
IV-7	Roadless Inventory Assigned to Continued Roadless Management.....	IV-11
IV-8	Wildlife Habitat Scheduled for Burning.....	IV-19

IV-9	Average Annual Fish Habitat Improvements by Alternative and Decade.....	IV-22
IV-10	Energy Consumption - Facilities.....	IV-31
IV-11	Potential Livestock Forage.....	IV-35
IV-12	Allowable Sale Quantity, First Decade, and Long-Term Sustained Yield Capacity.....	IV-42
IV-13	Impacts of a 108-MMBF Timber Program on the Regional Economy.....	IV-44
IV-14	Annual Long-Term Sustained Yield Capacity and Growth by Alternative.....	IV-45
IV-15	Visual Quality Objectives on Suitable Lands.....	IV-49
IV-16	Increased Water Yield Over Baseline Conditions.....	IV-50
IV-17	Forested Lands in Age Classes 160 Years Old or Older on Existing Nonclassified Lands.....	IV-54
IV-18	Timber Harvest on Big-Game Winter Range.....	IV-55
IV-19	Energy Consumption Related to Timber Harvest.....	IV-59
IV-20	Weighted-Average Logging Mixes by Logging System and Landclass.....	IV-60
IV-21	Harvest on Steep Landforms.....	IV-62
IV-22	Summary of Relative Costs and Resource Impacts by Logging Method.....	IV-69
IV-23	Average Annual Fuel Treatment.....	IV-72
IV-24	Annual Reforestation - First Decade.....	IV-74
IV-25	Average Annual Precommercial Thinning Projected for Decade 5..	IV-76
IV-26	Road Construction - Decades 1-5.....	IV-78
IV-27	Trail System Projected to Remaining in Decade 15.....	IV-80
IV-28	Average Annual Sediment Yield - Nonclassified Lands - Projected in Decade 5.....	IV-81
IV-29	Fish Habitat Potential.....	IV-82
IV-30	Percentage of Roadless Areas to be Developed and Miles of Road to be Constructed.....	IV-85
IV-31	Energy Required for Road Construction and Maintenance - Decades 1-5.....	IV-86
IV-32	Average Annual Open Road Equivalent Miles.....	IV-88
IV-33	Average Annual Acreage of Watershed Improvement and/or Maintenance by Decade.....	IV-90
VI-1	Number of Comments by Affiliation .....	VI-3
VI-2	Number of Comments by Category .....	VI-3
VI-3	Number of Documents by Geographic Origin.....	VI-4
VI-4	Persons, Organizations, and Agencies Who Commented on the Draft EIS and Plan.....	VI-29
VI-5	Index of Documents by Category Type.....	VI-46

---

# Summary

---

This discussion summarizes Chapters I through VI of the Final Environmental Impact Statement (EIS) for the Nez Perce National Forest Plan.

## I. Purpose and Need

This Final EIS describes a Preferred Alternative and alternative actions for management of land and resources administered by the Nez Perce National Forest. This includes 4,000 acres of the Payette National Forest in the Salmon Wild and Scenic River Corridor, and excludes 117,073 acres of the Nez Perce National Forest in the Hells Canyon Wilderness and National Recreation Area which are administered by the Wallowa-Whitman National Forest. The Final EIS describes and documents the analysis of each alternative, and discloses the environmental consequences of its implementation. The Preferred Alternative is the basis of the Nez Perce National Forest Land and Resource Management Plan, which is a separate document.

This document was developed under direction from the National Forest and Rangeland Renewable Resources Planning Act (RPA), the National Forest Management Act (NFMA), the National Environmental Policy Act (NEPA), and their implementing regulations.

In addition, under the provisions of 36 CFR 219.17, all roadless areas on the Forest are being reconsidered for wilderness classification.

### A. Planning Area

The Nez Perce National Forest contains 2,218,040 acres, and is located entirely in Idaho County, Idaho. Vegetation, terrain, and wildlife are varied. The anadromous fishery and the elk herds are of national significance.

The Forest contains parts of three wildernesses and all of another one, for a total of 926,188 acres. In addition, 150 miles of four rivers are classified under the National Wild and Scenic Rivers Act, and 16 roadless areas totalling 503,162 acres are within Forest boundaries. These are also of national significance.

An annual average program sale quantity of 102 million board feet helps furnish wood products to regional and national markets, and helps sustain the local economy.

### B. Public Involvement

This Final EIS has been developed with public participation, which included such agencies as the Idaho Department of Fish and Game, the U.S. Fish and Wildlife Service, and the Nez Perce Tribe, as well as individuals, industry groups, and environmental organizations. The public was encouraged to comment on the Draft EIS. Changes made in response to these comments have been incorporated into this Final EIS.

---

## SUMMARY

---

Thirteen major issues were first identified in 1980 through formal public involvement activities. Additional public involvement was solicited in 1983 to aid in the inventory and evaluation of the Forest's roadless areas.

The major issues, ranked according to the number of instances a similar concern was expressed and phrased as planning questions, are:

1. What level of sustained annual yield of timber products should the Forest provide while still maintaining Forest productivity and meeting local, regional, and national needs?
2. What is the compatibility of timber harvest, road development, water quality, and associated anadromous fish habitat?
3. Should some or all of the Forest's roadless areas remain roadless, be opened to roaded development, or be recommended to Congress for wilderness classification?
4. To what degree should wildlife demands be provided for?
5. To what degree should motorized recreation use be preferred over nonmotorized use?
6. How should conflicts between competing recreational activities be settled?
7. What road standards and locations are necessary to support Forest activities?
8. To what extent should use be controlled to maintain the quality of wild and scenic rivers, wilderness, or other pristine attractions?
9. How should livestock grazing be balanced with other resource demands?
10. How can timber harvest, roads, and big-game habitat needs be made compatible?
11. What are the effects of surface resource management on mineral exploration and development?
12. What are the effects of fire management on other resource values and uses?
13. What is the compatibility between management of the timber resource and desires for scenic quality?

---

## II. Alternatives Considered

Alternatives were developed to respond to public issues, opportunities, cost efficiency, and net public benefits.

### A. Range of Alternatives

Once the issues, concerns, and opportunities were identified, information was needed to determine the Forest's capability to respond to them. This was done in an analysis of the management situation which included resource information, economic data, and legal and environmental considerations. These included minimum management requirements to insure, among other things, that riparian areas are protected, that habitat for threatened and endangered species is maintained or enhanced, and that sufficient habitat is maintained for old-growth-dependent species.

Resource supply potentials were determined by establishing minimum and maximum production levels called benchmarks, and this defined the limits within which a range of alternatives could be constructed.

When the benchmarks were compared with the public issues and management concerns, it was apparent that large increases in timber harvest volume and the road mileage necessary to accomplish them would cause significant damage to anadromous fish habitat, at least for the next 50 years, and that realization of all fish and wildlife objectives over the same period of time would lower the harvest to a level that could threaten the economic stability of local communities.

This proved to be only one of a number of tradeoffs among the alternatives. Range forage production and elk winter range acreage are both closely tied to transitory range created by timber harvest. When large acreages are removed from timber production for wilderness or roadless management, and timber harvests are to be maintained or increased, the harvests must be intensified on a constrained landbase, which increases stream sedimentation and has adverse effects on elk summer habitat. If timber harvests fall below historic levels, present net value drops and forest-related private sector jobs are lost. On the other hand, all roadless areas have wilderness values which must be considered.

A range of alternatives was developed, some of which emphasize timber harvest, some of which emphasize additional wilderness, and some of which emphasize fish and game on nonwilderness lands. Other alternatives attempt to balance these and other issues and concerns in various combinations within benchmark limits.

## B. Description of Alternatives

Thirteen forest management alternatives were considered in detail during the planning process, including two which would temporarily increase the timber sale level above the long-term sustained yield capacity. These two departures from the base sale schedule would be accomplished only after 50 years, when about 80 percent of the road system would be in place and increased harvest would not cause excessive stream sedimentation. Except for these departure alternatives, annual timber harvest would not exceed the long-term sustained yield capacity over the next 150 years.

Alternative G is the Preferred Alternative, and the Forest Plan has been developed from it. In order, the alternatives considered are:

### Alternative A (Current Direction)

The goal of this alternative is to continue management direction set out in plans formulated and approved prior to passage of the National Forest Management Act, and contained in existing policies, standards, and guidelines. The Forest's budget is constrained to current levels.

Existing wilderness is retained, and no new wilderness would be recommended. The Nez Perce National Forest portion of Rackliff-Gedney Roadless Area 1841, 55,463 acres, and the Nez Perce National Forest portion of Rapid River Roadless Area 1922, 23,300 acres, will be managed without additional roads, for a total of 78,763 acres.

The long-term sustained yield capacity for this alternative is 143 million board feet per year, with an average harvest level of 84 million board feet per year during the Plan period (1988-1997). This annual harvest is 18 million board feet below the 1974-83 average annual volume offered for sale, and the long-term sustained yield capacity is the lowest of all alternatives.

Alternative A requires 2,340 miles of roads in addition to the existing 2,050 miles. Timber harvest objectives call for 710 miles of this road to be built in the Plan period.

Elk winter range carrying capacity will increase 18 percent over the current level in the first 10 years, but anadromous fish habitat potential Forestwide is projected to decrease 8 percent in 30 years. Range forage production is projected to increase 22 percent in 50 years.

Present campgrounds and picnic areas will be maintained. Recreation opportunities dependent on roads will increase. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative A is \$807 million, which is a 28-percent reduction from the maximum present net value, and is the lowest of all alternatives. Forest-related private sector jobs will decrease in the short term.

---

### Alternative B

The goal of this alternative was to analyze the effects of managing the Forest at the minimum level required to maintain it in public ownership. No scheduled timber or range outputs would be produced, and no roads would be built.

Although semiprimitive recreation opportunities would remain near present levels, and fish habitat would increase over time, this alternative did not respond to a wide range of public issues and concerns, and it was dropped from detailed consideration.

### Alternative C

The goal of this alternative is to emphasize nonmarket opportunities. Water, fish (wild gene pools), wildlife, recreation and other amenities are highlighted. Other resources are managed at economically and environmentally feasible levels.

Existing wilderness is retained, and no new wilderness is recommended. Six areas now roadless will be managed without additional roads. They are: Rackliff-Gedney 1841 (Nez Perce portion), 55,463 acres; Meadow Creek East 1845D, 94,203 acres; Meadow Creek West 1845C, 107,512 acres; Rapid River 1922 (Nez Perce portion), 23,300 acres; Silver Creek-Pilot Knob 1849, 21,034 acres; and part of Gospel-Hump (Jersey-Jack) 1921, 28,907 acres. These total 330,419 acres, or 66 percent of the inventoried roadless acreage on the Forest.

The long-term sustained yield capacity of this alternative is 197 million board feet per year, with an average harvest level of 74 million board feet per year during the Plan period (1988-1997). This annual harvest is 28 million board feet below the 1974-83 average annual volume offered for sale, and is the lowest first decade harvest in any of the alternatives.

Alternative C requires 4,000 miles of road in addition to the existing 2,050 miles. Timber harvest objectives call for 650 miles of this road to be built in the Plan period.

Elk winter range carrying capacity would increase 15 percent over the current level in the first 10 years, and anadromous fish habitat potential Forestwide is projected to decrease 2 percent in 30 years. Range forage production will be maintained at present levels.

Present campgrounds and picnic facilities will be maintained. Recreation opportunities dependent on roads will increase. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative C is \$944 million, which is a 16-percent decrease from the maximum present net value. Forest-related private sector jobs will decrease in the short term.

### Alternative D

The goal of this alternative is to emphasize market opportunities for outputs that have established market prices. Other resources will be managed at economically and environmentally feasible levels.

Existing wilderness is maintained, and no new wilderness will be recommended. All 503,162 acres in the roadless inventory will be opened to roaded development.

The long-term sustained yield capacity for this alternative is 242 million board feet per year, with an average harvest level of 157 million board feet per year during the Plan period (1988-1997). This annual harvest is 54 million board feet above the 1974-83 average annual volume offered for sale, and is the highest first decade harvest of all alternatives. It is also the highest long-term sustained yield.

Alternative D requires 5,780 miles of roads in addition to the existing 2,050 miles. Timber harvest objectives call for 1,150 miles of this road to be built during the Plan period. These mileages are the highest of all alternatives.

Elk winter range carrying capacity will increase 12 percent over the current level in the first 10 years, but anadromous fish habitat potential Forestwide is projected to decrease 14 percent in 30 years, the largest decrease in any alternative. Range forage production is projected to increase 31 percent in 60 years, the largest increase in any alternative.

Present campgrounds and picnic areas will be maintained. Recreation opportunities dependent on roads will increase. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative D is \$1,113 million, the highest of all alternatives, and only a 1-percent decrease from the maximum present net value. Forest-related private sector jobs will increase.

### Alternative E

The goal of this alternative is to determine how the Forest's Resource Planning Act (RPA) assignments can best be met.

Existing wilderness is retained and no new wilderness is recommended. All 503,162 acres in the roadless inventory will be available for roaded development.

The long-term sustained yield capacity for this alternative is 228 million board feet per year, with an average harvest level of 127 million board feet per year during the Plan period (1988-1997). This annual harvest is 25 million board feet above the 1974-83 average annual volume offered for sale.

---

Alternative E requires 5,180 miles of road in addition to the existing 2,050 miles. Timber harvest objectives call for 970 miles of this road to be constructed during the Plan period.

Elk winter range carrying capacity will increase 20 percent over the current level in the first 10 years, and anadromous fish habitat potential Forestwide is projected to decrease 5 percent in 30 years. Range forage production will decrease slightly.

Present campgrounds and picnic areas will be maintained. Recreation opportunities dependent on roads will increase. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative E is \$923 million, an 18-percent reduction from the maximum present net value. Forest-related private sector jobs will increase.

#### Alternative F

The goal of this alternative is to emphasize fish and wildlife resources with a specified minimum level of timber production.

Existing wilderness will be retained, but no new wilderness will be recommended. Five inventoried roadless areas will be managed without additional roads. They are: Gospel-Hump 1921, 54,321 acres; Mallard 1847, 23,232 acres; Rapid River 1922 (Nez Perce portion), 23,300 acres; East Meadow Creek 1845D, 94,203 acres; and Rackliff-Gedney 1841 (Nez Perce portion), 55,463 acres. These total 250,519 acres, or 46 percent of the total inventoried roadless acreage on the Forest.

The long-term sustained yield capacity of this alternative is 206 million board feet per year, with an average harvest level of 116 million board feet per year during the Plan period (1988-1997). This harvest level is 14 million board feet above the 1974-83 average annual volume offered for sale.

Alternative F requires 4,310 miles of roads in addition to the existing 2,050 miles. Timber harvest objectives call for 930 miles of this road to be constructed during the Plan period.

Elk winter range carrying capacity will increase 22 percent over the current level in the first 10 years, but anadromous fish habitat potential Forestwide is projected to decrease 10 percent in 30 years. Range forage production is projected to increase 10 percent in 40 years.

Present campgrounds and picnic areas will be maintained. Recreation opportunities dependent on roads will increase, and unroaded opportunities will be retained. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative F is \$1,005 million, a 10-percent reduction from the maximum present net value. Forest-related private sector jobs will increase.

#### Alternatives G (Preferred Alternative) and G1

The goal of these alternatives is to emphasize fish and wildlife resources through specific drainage objectives, and to provide a high level of market outputs.

Existing wilderness is retained, and no new wilderness will be recommended. One inventoried roadless area and parts of two others will be managed without additional roads. All of East Meadow Creek 1845D (94,203 acres) will remain roadless. Rapid River 1922 (Nez Perce portion) will be reduced by 3,957 acres, and the remaining 19,343 acres will be managed without additional roads. Approximately 13,300 acres in Silver Creek-Pilot Knob roadless area 1849 will also be managed without additional roads. Acreage from the roadless inventory remaining roadless under this alternative will total 126,846, or 25 percent of the total roadless inventory.

The long-term sustained yield capacity of these alternatives is 210 million board feet per year, with an average harvest level of 108 million board feet per year in Alternative G and 111 million board feet in Alternative G1 during the Plan period (1988-1997). This is 6 million board feet and 9 million board feet, respectively, above the average annual harvest level during the period of 1974-1983. Alternative G1 departs from the base sale schedule of Alternative G after 50 years, which allows the primary road system to be constructed at a rate consistent with fishery and water quality objectives.

Alternative G requires 4,450 miles of road and Alternative G1 requires 5,050 miles of road in addition to the existing 2,050 miles. Timber harvest objectives for Alternative G call for 830 miles of this road to be constructed during the Plan period, and Alternative G1 calls for 850 miles.

Elk winter range carrying capacity will increase 54 percent over the current level in 10 years in both alternatives, and anadromous fish habitat potential Forestwide is projected to decrease 2 percent over 30 years. Range forage production is projected to increase 16 percent in 70 years.

Present campgrounds and picnic areas will be maintained. Recreation opportunities dependent on roads will increase, but roadless opportunities will be maintained on 126,846 acres of the roadless inventory. Twenty miles of trail will be constructed or reconstructed each year.

The present net value of Alternative G is \$986 million, which is a 12-percent reduction from the maximum present net value, and the present net value of Alternative G1 is \$1,067, a 5-percent reduction. Forest-related private sector jobs will increase.

---

### Alternatives H and H1

The goal of these alternatives is to maximize the Forest's wilderness resource. Market outputs outside existing and proposed wilderness are also maximized.

Existing wilderness is retained, and all roadless areas in the inventory will be recommended to Congress for wilderness classification, resulting in a total of 1,429,350 acres of wilderness on the Forest, or 64 percent of all Forest lands.

The long-term sustained yield capacity of these alternatives is 150 million board feet per year, with average harvest levels of 94 million board feet per year for Alternative H and 89 million board feet per year for Alternative H1 during the Plan period (1988-1997). In Alternatives H and H1, this annual harvest is 8 million board feet and 13 million board feet, respectively, below the 1974-83 average annual volume offered for sale. Alternative H1 is projected to depart from the base sale schedule of Alternative H after 50 years, which will allow the primary road system to be constructed at a rate consistent with fishery and water quality objectives.

Alternative H requires 3,010 miles of road in addition to the existing 2,050 miles, and Alternative H1 requires 2,990 miles. Both alternatives call for 760 miles of this road to be constructed during the Plan period.

Elk winter range carrying capacity will increase 5 percent over the current level in 10 years in both alternatives, and anadromous fish habitat potential Forestwide is projected to decrease 10 percent over 30 years. Range forage production is projected to increase slightly over 30 years in these alternatives.

Present campgrounds and picnic areas will be maintained. Wilderness recreation opportunities will increase. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative H is \$822 million, which is a 27-percent reduction from the maximum present net value, and the present net value of Alternative H1 is \$878 million, a 22-percent reduction. Forest-related private sector jobs will decrease.

### Alternative I

The goal of this alternative is to furnish a high-acreage addition to the Forest's wilderness resource. Market outputs from lands outside existing and proposed wilderness are also maximized.

Existing wilderness is retained. In addition, all of four inventoried roadless areas and parts of two others will be recommended to Congress for wilderness classification. The remainder will be opened to roaded development. Those proposed for wilderness in their entirety are Rapid River 1922 (Nez Perce

portion), 23,300 acres; East Meadow Creek 1845D, 94,203 acres; West Meadow Creek 1845C, 107,512 acres; and Rackliff-Gedney 1841 (Nez Perce portion), 55,463 acres. Part of Mallard 1847, 17,232 acres; and part of Gospel-Hump (Jersey-Jack) 1921, 28,907 acres, are also proposed for wilderness. The total wilderness recommendation is 326,617 acres, 65 percent of all inventoried roadless acreage, and will bring the total wilderness on the Forest to 1,252,805 acres, or 56 percent of all Forest lands.

The long-term sustained yield capacity of this alternative is 176 million board feet per year, with an average harvest level of 123 million board feet per year during the Plan period (1988-1997). This annual harvest is 21 million board feet above the 1974-83 average annual volume offered for sale.

Alternative I requires 3,610 miles of roads in addition to the existing 2,050 miles. Timber harvest objectives call for 950 miles of this road to be built during the Plan period.

Elk winter range carrying capacity will increase 9 percent over the current acreage in the first 10 years, and anadromous fish habitat potential Forestwide is projected to decrease 11 percent in 30 years. Range forage production is projected to increase 10 percent in 50 years.

Present campgrounds and picnic areas will be maintained. Primitive recreation opportunities will increase. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative I is \$916 million, which is an 18-percent reduction from the maximum present net value. Forest-related private sector jobs will increase.

#### Alternative J

The goal of this alternative is to furnish a medium-acreage addition to the Forest's wilderness resource. Market outputs from lands outside existing and proposed wilderness are also emphasized.

Existing wilderness is retained. In addition, all of three inventoried roadless areas and parts of two others will be recommended to Congress for wilderness classification. Those proposed for wilderness in their entirety are Rapid River 1922 (Nez Perce portion), 23,300 acres; East Meadow Creek 1845D, 94,203 acres; and Rackliff-Gedney 1841 (Nez Perce portion), 55,463 acres. Part of Mallard 1847, 17,232 acres; and part of Gospel-Hump (Jersey-Jack) 1921, 28,907 acres, are also proposed for wilderness. This recommendation totals 219,105 acres, 44 percent of the inventoried roadless acreage on the Forest, and brings the total wilderness on the Forest to 1,145,293 acres, or 52 percent of all Forest lands.

---

The long-term sustained yield capacity of this alternative is 205 million board feet per year, with an average harvest level of 137 million board feet per year during the Plan period (1988-1997). This annual harvest is 35 million board feet above the 1974-83 average annual volume offered for sale.

Alternative J requires 4,660 miles of roads in addition to the existing 2,050 miles. Timber harvest objectives call for 1,030 miles of this road to be built during the Plan period.

Elk winter range carrying capacity will increase 8 percent over the current level in the first 10 years, but anadromous fish habitat potential Forestwide is projected to decrease 12 percent over 30 years. Range forage production is projected to increase 22 percent in 70 years.

Present campgrounds and picnic areas will be maintained. Primitive recreation opportunities will increase, as will opportunities dependent on roads. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative J is \$1,014 million, a 10-percent decrease from the maximum present net value. Forest-related private sector jobs will increase.

#### Alternative K

The goal of this alternative is to furnish a moderate-acreage addition to the Forest's wilderness resource and to emphasize fish and wildlife resources outside existing and proposed wilderness through specific drainage objectives.

Existing wilderness is retained, and three inventoried roadless areas will be recommended to Congress for wilderness classification. They are Rapid River 1922 (Nez Perce portion), 23,300 acres; Rackliff-Gedney 1841 (Nez Perce portion), 55,463 acres; and East Meadow Creek 1845D, 94,203 acres. The remainder will be opened to roaded development. This recommendation totals 172,966 acres, or 34 percent of the inventoried roadless acreage, and brings the total wilderness on the Forest to 1,099,154 acres, or 50 percent of all Forest lands.

The long-term sustained yield capacity of this alternative is 206 million board feet per year, with an average harvest level of 102 million board feet per year during the Plan period (1988-1997). This annual harvest level is the same as the 1973-84 average annual volume offered for sale.

Alternative K requires 4,400 miles of roads in addition to the existing 2,050 miles. Timber harvest objectives call for 920 miles of this road to be constructed during the Plan period.

Elk winter range carrying capacity will increase 22 percent over the current level in the first 10 years, and anadromous fish habitat potential Forestwide is projected to decrease 2 percent over 30 years. Range forage production is projected to increase slightly in 50 years.

Present campgrounds and picnic areas will be maintained. Primitive recreation opportunities will increase, as will opportunities dependent on roads. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative K is \$980 million, a 12-percent decrease from the maximum possible present net value. Forest-related private sector jobs will increase.

#### Alternative L

The goal of this alternative is to furnish a low-acreage addition to the Forest's wilderness resource and to emphasize fish and wildlife resources outside existing and proposed wilderness through specific drainage objectives.

Existing wilderness is retained, and one inventoried roadless area, East Meadow Creek 1845D at 94,203 acres, will be recommended to Congress for wilderness classification. Two other roadless areas, Rackliff-Gedney 1841 (Nez Perce portion), 55,463 acres, and Rapid River (Nez Perce portion), 23,300 acres, will be managed without additional roads. All other inventoried roadless areas will be opened to roaded development. This recommendation will bring the total wilderness on the Forest to 1,020,391 acres, or 46 percent of all Forest lands.

The long-term sustained yield capacity of this alternative is 206 million board feet per year, with an average harvest level of 102 million board feet per year during the Plan period (1988-1997). This annual harvest is the same as the 1973-84 average annual volume offered for sale.

Alternative L requires 4,860 miles of roads in addition to the existing 2,050 miles. Timber harvest objectives call for 940 miles of this road to be constructed during the Plan period.

Elk winter range carrying capacity will increase 22 percent over the current level in the first 10 years, but anadromous fish habitat potential Forestwide is projected to decrease 2 percent over 30 years. Range forage production is projected to increase 12 percent over 40 years.

Present campgrounds and picnic areas will be maintained. Primitive recreation opportunities will increase, as will opportunities dependent on roads. Ten miles of trail will be constructed or reconstructed each year.

The present net value of Alternative L is \$977 million, a 13-percent reduction from the maximum present net value. Forest-related private sector jobs will increase.

### C. Comparison of Alternatives

The foregoing description of individual alternatives shows that some emphasize increased timber harvest levels, some emphasize additional wilderness, and some emphasize high fish and wildlife objectives. It is impossible to attain all of these goals simultaneously; tradeoffs among them are necessary.

The Summary Table compares important resource and economic outputs of the alternatives. In addition to differences in timber harvest, road mileage, proposed wilderness, and elk and fish habitat, differences in present net value (PNV) are displayed.

PNV is a dollar figure, and obviously all values involved in forest management cannot be expressed this way. PNV is the difference between the total benefits of all Forest outputs to which monetary values are assigned and total costs of managing the Forest. Since it is a monetary measure, it is largely dependent on levels of timber harvest on this Forest, which in turn determine to a great degree net returns to the U.S. Treasury, returns to local counties, and local employment levels. High fish and wildlife goals reduce PNV in that they impose constraints on timber harvest. These goals are not priced, and are not included in PNV. Therefore, while PNV is an extremely valuable comparison among alternatives, it is by no means the only one.

The alternative selected to guide management of the Forest must maximize net public benefits; that is, it must combine PNV with forest resources that cannot be priced in a way that is responsive to the wishes of the public. Alternative G is the proposed management strategy for the years 1988-1997 on the Nez Perce National Forest.

SUMMARY

Summary Table  
Resource and Economic Outputs by Alternative

	Current Level(1980)	ALTERNATIVE					
		A	C	D	E	F	G
Annual Timber Harvest Decade 1 (Million Board Feet)	102.0	84.0	74.0	157.0	127.0	116.0	108.0
Decade of Attainment of Long-Term Sustained Yield	-	2	3	3	3	2	4
Total New Roads (Thousand Miles)	2.0	2.3	4.0	5.8	5.2	4.3	4.5
Total New Wilderness (Thousand Acres)	926.2	0	0	0	0	0	0
Roadless (Thousand Acres)	503	79	330	0	0	251	127
Annual Livestock Use Decade 1 (Thousand AUM)	42	43	42	43	40	42	43
Total Elk Winter Range Decade 1 (Thousand Elk)	13.2	16.0	15.5	15.0	16.5	17.0	20.3
Total Anadromous Fish Decade 1 (Thousand Smolt)	705	682	695	668	693	677	706
Resident Trout Decade 1 (Thousand Fish)	364	361	356	351	350	357	358
Present Net Value 4% (Million Dollars)	-	807	944	1,113	923	1,005	986
Total Annual Costs Decade 1 (Million Dollars)	13.1	13.3	13.2	18.9	17.7	16.6	15.5
Total Annual Benefits Decade 1 (Million Dollars)	17.2	22.1	20.0	29.2	23.5	24.8	24.0
Local Forest-Related Employ- ment Change from 1980 to First Decade Annual Average	2,065	-186	-280	799	432	323	159

Summary Table (Continued)  
Resource and Economic Outputs by Alternative

ALTERNATIVE								
G1	H	H1	I	J	K	L	Max PNV	Min- Level
111.0	94.0	89.0	123.0	137.0	102.0	102.0	196.0	0.0
4	2	4	2	3	2	2	2	N.A.
5.1	3.0	3.0	3.6	4.7	4.4	4.9	8.0	0.0
0	503	503	327	219	173	94	0	0
127	0	0	0	0	0	79	0	503
43	42	42	42	42	42	42	40	0
20.3	13.9	13.8	14.8	14.4	17.0	17.0	15.0	14.4
706	679	689	676	674	699	699	599	713
358	359	361	358	356	351	351	364	364
1,067	822	878	916	1,014	980	977	1,120	325
16.1	13.9	13.9	16.4	17.3	15.3	15.3	22.1	2.0
23.9	22.3	21.6	25.6	27.1	23.8	23.7	33.0	10.9
195	-46	-85	336	527	90	90	1,299	-1,450

### III. Affected Environment

#### A. General Setting

The Nez Perce National Forest is mountainous, and is characterized by deeply incised canyons and steep, timbered slopes. Parts of the Clearwater, Salmon, and Snake River drainages are within the boundaries. The Snake River, on the western boundary, has helped form one of the most formidable gorges in North America.

The primary social impact zone is Idaho County, Idaho. Timber, recreation and Federal employment provide income for local residents. In addition, Idaho County receives a direct share of Forest revenues.

The Forest is the ancestral home of the Nez Perce Indians.

#### B. Recreation

The Forest's main attractions are big game, anadromous fish, unroaded backcountry, wilderness, and wild and recreational rivers. Four National Recreation Trails have been established. Developed sites include 27 campgrounds and four picnic areas. Winter sports such as cross-country skiing and snowmobiling are increasing in popularity.

#### C. Cultural Resources

Native Americans inhabited the Forest in both historic and prehistoric times, and sites have been located along all major drainages. Gold mining activity beginning in the 1860s left behind an important set of cultural resources.

#### D. Wilderness, Roadless, and Special Areas

There are 926,188 acres of wilderness on the Forest, which include parts of the Selway-Bitterroot, Hells Canyon, and Frank Church-River of No Return Wildernesses, and all of the Gospel-Hump Wilderness. Parts of the Salmon, Rapid, Middlefork of the Clearwater, and Selway Rivers are classified under the National Wild and Scenic Rivers Act. Sixteen roadless areas contain 503,162 acres. Two Research Natural Areas have been established.

#### E. Visual Resources

Much of the Nez Perce Forest is natural or near natural in appearance. Of the four categories used to classify existing visual conditions (EVC), the highest EVC category, "natural," is used to describe approximately 70 percent of the Forest. Visual quality has been altered in places by road construction, timber harvest, and mining.

### F. Wildlife

About 390 wildlife species inhabit the Nez Perce. Hunttable populations of elk, mule and whitetail deer, bighorn sheep, moose, mountain goat, black bear, and mountain lion are present. Unique species such as osprey, fisher, marten, wolverine, pileated woodpecker, and river otter are also found.

One threatened and three endangered animal species or their habitats are present on the Forest. The grizzly bear is the threatened species; and the peregrine falcon, gray wolf, and bald eagle are endangered species.

### G. Fish

Warmwater-tolerant and coldwater game fish inhabit Forest waters. Warmwater-tolerant species include white sturgeon and smallmouth bass. Coldwater species include cutthroat trout, rainbow-cutthroat hybrids, brook trout, Dolly Varden trout, and mountain whitefish.

The Forest's three anadromous species are Chinook salmon and steelhead trout, which use Nez Perce waters as spawning and rearing habitat, and sockeye salmon, which migrate to the headwaters of the Salmon River off the Forest.

### H. Range

The Nez Perce currently has about 316,000 acres of suitable range open to domestic livestock grazing. Approximately 6,600 cattle and 3,400 sheep under 65 permits graze Forest lands from 4 to 6 months per year.

About 2,500 acres of suitable range in wildernesses are open to commercial outfitters and recreational stock grazing.

### I. Timber

The Forest has 1,070,414 acres of lands tentatively suitable for timber production. Some 80 percent of these lands are sawtimber stands that are at or beyond the point of maximum mean annual growth. Thus, the Nez Perce is an "old growth surplus" forest.

During the 10-year period of 1974-1983, the Forest has had an average annual program sale quantity of 102 million board feet. The estimated capacity of mills which have historically purchased timber from the Forest is 135 million board feet per year.

### J. Watershed

The Nez Perce Forest contributes about 3.6 million acre-feet of water per year to the Columbia River drainage. Water quality is very good to excellent; sediment from road construction, timber harvest, and mining is the major pollutant. There are two municipal watersheds on the Forest.

### K. Minerals

Exploration began in the 1860s. Placer operations currently dominate gold production on the Forest; however, there has been a renewed interest in lode operations in the past few years, mainly in the historic mining areas.

There are no known geologic environments favorable for oil and gas development, although a 5,000-acre lease has been issued. No interest has been shown in geothermal energy.

Approximately 41 percent of the Forest is withdrawn from mineral entry or will be withdrawn by 1988. Most of these lands are within existing wilderness.

### L. Road System

There are about 2,050 miles of roads on the Forest. Approximately 60 miles of new roads are constructed annually, almost all of which are associated with timber management. Road standards are the minimum possible to serve the resource objectives.

### M. Protection

The Forest has averaged 117 lightning fires per year during the 5-year period of 1981-1985, with an average of 2,377 acres burned annually. Since 1960, annual burned acreage has exceeded 5,000 seven times. A contingent of smokejumpers operates out of Grangeville during the fire season.

The mountain pine beetle is causing damage on the Forest, principally in high risk lodgepole pine stands.

## IV. Environmental Consequences

Environmental consequences are the expected effects resulting from activities associated with implementing each alternative. They are described as quantitative or qualitative changes from the current situation in terms of significance, magnitude, and duration.

### A. Wilderness

The establishment of additional wilderness on the Forest would preclude timber harvest and limit grazing and mining. Ecosystems would be allowed to function undisturbed. Opportunities for solitude and primitive recreation would increase. Six alternatives propose additional wilderness on the Forest.

**B. Developed Recreation**

The 285 acres of developed recreation sites do not change by alternative, and have little or no effect on other resources. As emphasis on developed recreation decreases, the risk of environmental degradation from sewage, garbage, vandalism, and overuse increases.

**C. Dispersed Recreation**

Effects are similar to those of developed recreation in areas of heavy use. All alternatives but two emphasize dispersed recreation.

**D. Roadless Management**

Continued roadless management of roadless lands does not result in significant changes from the current situation. Inventoried roadless areas are assigned to continued roadless management in five alternatives.

**E. Cultural Resources**

Treatment of cultural resources does not vary by alternative. Sites where ground-disturbing activities are planned will be inventoried. Some sites may be inadvertently entered and possibly disturbed.

**F. Threatened and Endangered (T&E) Species**

No alternative is expected to adversely affect a species. The Forest will consult with the U.S. Fish and Wildlife Service on any activity which may affect a T&E species.

**G. Wildlife Habitat Improvement**

Prescribed fire and timber harvest are the main activities conducted to maintain or increase the forage on big-game winter range. Burning programs are included in six alternatives.

**H. Fish Habitat Improvement**

Specific projects are designed to improve and/or enhance fish habitat, and they usually involve only short sections of streams and limited, temporary environmental effects. Fish habitat improvements are scheduled in all alternatives.

**I. Minerals**

Alternatives with roadless and wilderness recommendations decrease access to and availability of mineral resources. Development of a large surface mine could significantly affect a specific site.

Placer mining can cause substantial environmental damage, because of the need to conduct these operations in streams and wetlands. Water quality and fish habitat can be severely impacted.

The use of cyanide for extracting metals from ore creates a potential for water contamination.

#### J. Fire Suppression and Management

Some lightning-caused fires are allowed to burn in some areas under close surveillance and a predetermined set of conditions. Other fires are suppressed. Soil disturbance can result from suppression activity.

#### K. Range Management

Riparian areas and associated resources are affected by livestock grazing. Under all alternatives, livestock graze elk winter range in summer, and this reduces total carrying capacity for elk on winter range by 20 percent Forestwide. Elk/livestock competition also exists on summer ranges, but winter range is the controlling factor in total herd size.

Water developments, grassland burning, fencing, and noxious weed control activities can have adverse effects on specific sites.

#### L. Timber Harvest

Timber harvest is scheduled in all alternatives. Impacts depend on the specific harvest method, the location of the harvest, and the rate of the harvest.

Most timber harvest on the Forest will be done with even-aged systems; shelterwood and clearcut methods will be used. Visual quality can be impacted by these systems, and water yields increased. Stream sedimentation levels also increase.

Uneven-aged harvest systems such as single tree selection and group selection may be applied in riparian areas or areas with highly sensitive visual objectives.

Manipulation of forest vegetation through timber management impacts animal communities and causes changes in habitats. Even-aged harvest reduces big-game cover, but creates diversity for other wildlife species which prefer openings and sparse canopies.

Plant community diversity is altered in both horizontal and vertical structures. All alternatives provide for 10 percent of all forested acres to remain as habitat for old-growth-dependent species; this acreage is evenly distributed across the Forest.

---

Big-game species are significantly impacted by timber harvest. Adverse effects can occur on elk summer ranges. Winter range can be improved by timber harvest.

Timber harvest contributes more to present net value than any other resource. However, the first decade harvest level is lower than the long-term sustained yield in all alternatives because of constraints designed to achieve fish and wildlife objectives.

Constraints imposed on timber management for fish and wildlife reasons affect both harvest rates and regeneration rates, and thus lower growth rates.

Some initial timber sales in areas previously unroaded may have a negative cash flow.

#### M. Road System

Roads provide access for Forest users and for administrative activities. Almost all road construction directly relates to timber harvest objectives, although once a road is in place, it can be used for many other purposes.

Road construction has a greater effect on wildlife habitat than any other Forest management activity. For elk and other big game, security is lost, the animals are displaced, and increased competition results for undisturbed lands.

Many wildlife impacts are lessened through road location and design. Additional mitigation is achieved through road closures and scheduling of timber harvests.

Road construction also has a greater effect on water quality than most other Forest management activities. Increased stream sedimentation adversely affects fisheries by reducing water flow to developing eggs, blocking young fry from emerging from the spawning gravels, destroying food organisms, and filling in rearing habitat.

In all alternatives, road construction activities are designed to achieve at least a 60-percent mitigation of predicted sediment. In many cases, a higher percentage will be achieved. Sediment control measures may include, but are not limited to, surfacing, filter windrows, seeding and fertilizing, netting, mulch, and sediment traps.

Fish and wildlife objectives are the primary control on road construction in the first two decades under all alternatives.

#### N. Other Consequences

The Final EIS, where applicable, identifies consequences that are direct, indirect, cumulative, or unavoidable; the relationship of short-term use of resources on long-term productivity; and the irreversible and irretrievable commitment of resources.

Short-term Use vs Maintenance and Enhancement of Long-term Productivity - Short-term uses include seasonal livestock grazing, initial timber harvest, and mining activity. Long-term productivity is the capability of the land to provide these and other resources over time. Some alternatives place more emphasis on short-term uses which result in short-term adverse impacts, but under all alternatives the long-term productivity of the land is maintained.

Irreversible and Irretrievable Commitment of Resources - Most proposed activities do not cause irreversible commitment of resources since they involve renewable resources. The removal or disturbance of some resources such as mineral or cultural is irretrievable. Degradation of some resources is reversible only over a long period of time.

Adverse Effects Which Cannot be Avoided - Control of fire, insects, diseases, and noxious weeds is restricted in wilderness and roadless areas. Despite care and maintenance of recreation sites, roads, and trails, water flow is changed and some erosion will occur. Timber harvest and road construction will alter big-game and other wildlife habitat. Mineral exploration and development disturbs soil, which can result in erosion and reduce water quality. Localized conflicts will exist between livestock and big game. Timber harvest and road construction activities disturb soil which increases sedimentation in streams. Some timber management opportunities will be foregone due to fish and wildlife constraints on acres harvested and regenerated.

#### 0. Mitigation

Specific measures to mitigate adverse environmental effects resulting from implementation of each alternative are included in standards, prescriptions, and minimum management requirements used in developing this Final EIS and the Forest Plan. Varying degrees of mitigation are possible, but in no case can all adverse effects of the implementation of any alternative be mitigated.

---

# Chapter I

# Purpose and Need for Action

---

## A. Introduction

This Environmental Impact Statement (EIS) documents the analysis and discloses the significant environmental effects of a Preferred Alternative and other alternatives for the future management of land and resources administered by the Nez Perce National Forest. This includes 4,000 acres of the Payette National Forest in the Salmon Wild and Scenic River Corridor, and excludes 117,073 acres of the Nez Perce National Forest in the Hells Canyon Wilderness and National Recreation Area which are administered by the Wallowa-Whitman National Forest.

The Preferred Alternative is the basis for the Forest Land and Resource Management Plan (Forest Plan) which is a separate document. The Forest Plan will guide management of the Forest for the next 10 to 15 years unless conditions or demands significantly change. The analysis in the EIS projects outputs and effects for up to 150 years to indicate the long-term implications of continuing with the Plan. While long-range effects have been estimated, the Plan is valid until it is revised, committing the Forest to a course of action no longer than 15 years.

Development of this EIS and Forest Plan followed direction from the Forest and Rangeland Renewable Resources Planning Act (RPA), the National Forest Management Act (NFMA) and its implementing regulations 36 CFR 219, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations 40 CFR 1500-1508. The analyses in the EIS and Forest Plan are designed to ensure multiple use and provide a sustained yield of goods and services from the Forest to maximize long-term net public benefits (NPB) and address public issues and management concerns in an environmentally sound manner. NPB represents the cumulative net value of all Forest outputs and activities, whether priced or nonpriced.

Projects implementing the Forest Plan are subject to the NEPA process. However, environmental analyses can be tiered from the broader environmental statements of the RPA Program, Regional Guide, and Forest Plan. Actions not covered by the hierarchy of planning levels will require additional environmental analysis.

## B. National, Regional, and Forest Planning

This analysis and the resultant Forest Plan will supersede all previous land and resource management plans prepared by the Forest. They are a direct link to national and regional planning. The national program, required by RPA, sets national direction and output levels for National Forest system lands. These levels are based on suitability and capability information provided by Forest Service Regions. Each Region, in a Regional Guide, divides its share of the national production levels among the Forests. The Guide also delineates standards for management within the Region. The share for each Forest is based on detailed information furnished by the Forest.

The EIS results from the first seven of ten planning actions required by NFMA (36 CFR 219). These seven planning actions are:

1. Identification of issues, concerns, and opportunities.
2. Development of planning criteria.
3. Inventory data and information collection.
4. Analysis of the management situation.
5. Formulation of alternatives.
6. Estimated effects of alternatives.
7. Evaluation of alternatives.

Planning records and the documents and files which chronicle the first seven planning actions are available for review at the Forest Supervisor's Office, Grangeville, Idaho. The planning records contain the detailed analysis on which the EIS is based. Reference is made to the planning records in both this Environmental Impact Statement and the Forest Plan.

Refer to Appendices A and B for a detailed description of the process used in planning actions one through six.

Government agencies and the public were asked to comment on the Draft EIS and Proposed Forest Plan. Comments received were used to evaluate the results of the first seven planning steps and to modify, where necessary, the Proposed Forest Plan. The Final EIS and Forest Plan will then be used by the Regional Forester as the information base for a Record of Decision to complete the planning steps:

8. Selection of the preferred alternative.
9. Plan implementation.
10. Monitoring and evaluation.

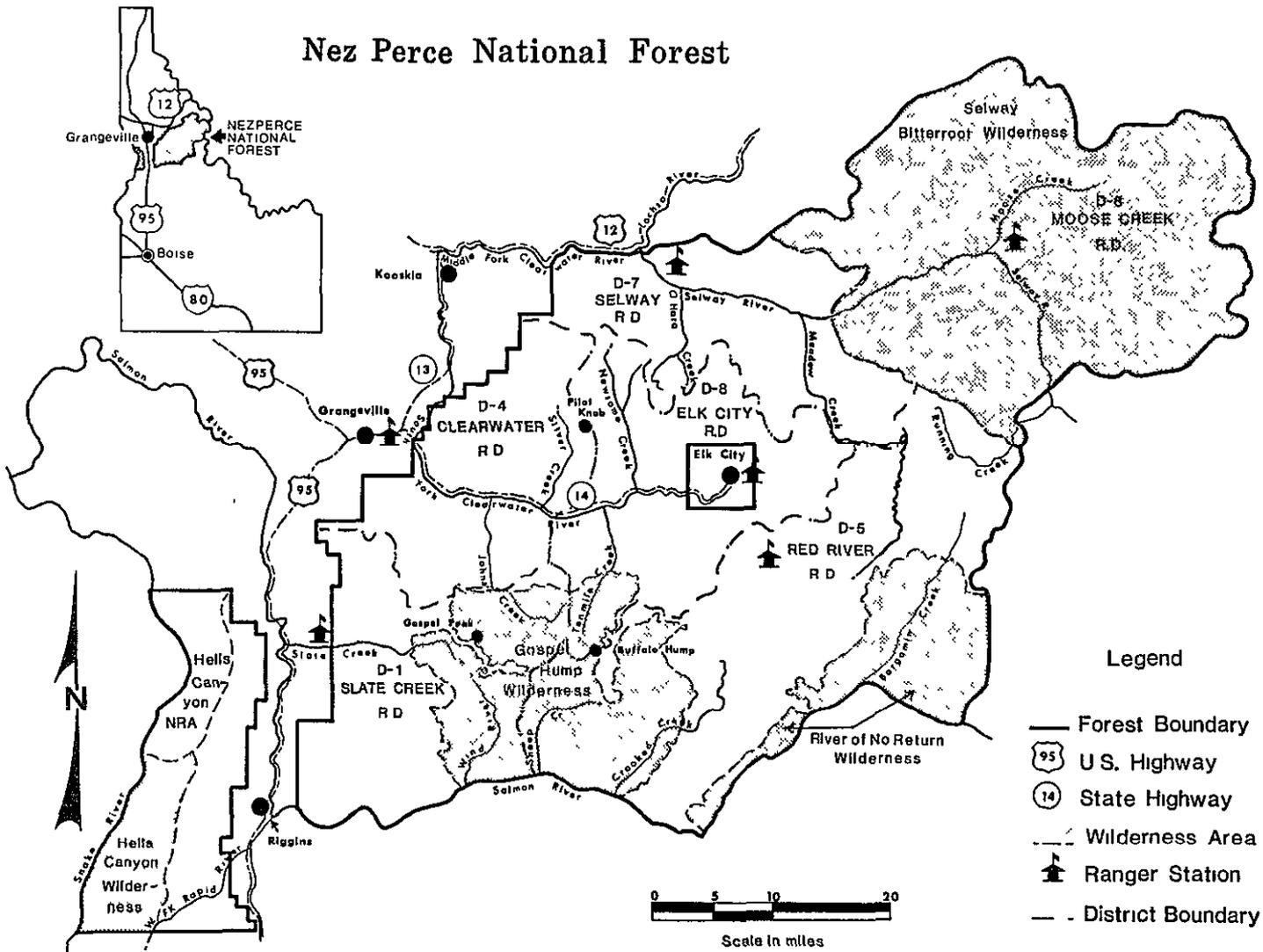
#### C. Planning Area

##### 1. General

The Nez Perce National Forest is located entirely within Idaho County in north-central Idaho. It occupies the southwest corner of the Northern Region of the Forest Service and extends from the Idaho-Montana border in the heart of the Bitterroot Mountains southwesterly to the Idaho-Oregon border on the Snake River in famous Hells Canyon (see vicinity map). The Forest is partially bounded on the north by the Middle Fork of the Clearwater River, and on the south by the Salmon River. It is approximately 105 miles long and 77 miles wide, with a net area of 2,218,040 acres. Gross acreage is 2,247,082, with most of the difference in private ownership.

There is extreme variation in topography: elevations on the Nez Perce range from less than 1,500 feet to over 9,000 feet. The Forest is drained by several fast-flowing rivers -- the Snake, Salmon, Selway, and South Fork of the Clearwater. These rivers have deep canyons with steep sidewalls.

### Nez Perce National Forest



Most of the Forest soils are moderately productive. Many have the high erosion hazard typically associated with the Idaho Batholith.

Vegetation is as varied as the terrain, but for the most part is composed of a mature forest. About 80 percent of all timber is of sawtimber size. Lower elevations along the Salmon and Snake Rivers, especially along south- and west-facing canyon walls, are usually covered with vegetation of grass and brush. Major tree species are grand fir, Douglas-fir, ponderosa pine, larch, lodgepole pine, Engelmann spruce, western redcedar, and subalpine fir.

Wildlife is also varied. Elk, deer, moose, mountain goat, bighorn sheep, black bear, and mountain lion are the more sought-after game animals. The elk herd is nationally known and, after several years of decline, is increasing. Habitat is present for the gray wolf, peregrine falcon, bald eagle, and grizzly bear.

The resident fishery is of local significance, and the anadromous fishery (steelhead and salmon) is of international importance. All of the Forest's rivers support anadromous fish runs, and most immediate tributary creeks have spawning and rearing habitat.

The Nez Perce Tribe has hunting and fishing treaty rights on the Forest, and many members reside within the regional zone. In addition to the Nez Perce, other tribes that have an interest in anadromous fish are the Confederated Tribes of the Umatilla Reservation, the Confederated Tribes and Bands of the Yakima, and the Confederated Tribes of the Warm Springs Reservation.

The regional zone of influence constitutes the major market area within which the direct, indirect, and induced impacts of Forest management activities and outputs apply. It encompasses the four-county area of Clearwater, Idaho, Lewis, and Nez Perce Counties, and includes the region's primary service center at Lewiston. Population in the regional area has remained stable over the last two census periods. With the exception of Nez Perce County (Lewiston area), no real growth trends are apparent. This can be accounted for by the stable demand for both agricultural and forest products, both mainstays in the regional economy.

Other than manufacturing of market products, the primary importance of the Forest in the regional area is for recreation. Many people use the Forest for recreational pursuits: an estimated 50 percent of the use is by people from the four-county area. Fishing and hunting draw most Forest visitors from this zone.

Individuals in the regional area who use the Forest also have shown a strong interest in how it is managed. A number of public interest groups, as well as individuals, have taken an active part in helping shape Forest management priorities. This is often expressed in the form of appreciation for amenity or aesthetic values.

The local zone of influence (Idaho County) is closely aligned with the Nez Perce National Forest because of geographic location, historic settlement, economic dependency, and traditional use patterns. Although precise dates as to when Native Americans first occupied the lands that comprise Idaho County are not available, it is thought that Native Americans have lived in north-central Idaho for some 7,000 to 10,000 years. More recently, studies have shown that Idaho County falls within the territory of the Sahaptin-speaking Nez Perce Indians. The Nez Perce used many different environments and resources in Idaho County, spending winters along primary rivers such as the Salmon, Snake, and Clearwater, and then moving to higher elevations in the spring and summer. The Nez Perce way of life continued uninterrupted for many years until the coming of Euro-Americans in search of gold.

Mining began in Idaho County in the early 1860s, and played an important role in the historic settlement of the area, creating communities such as Elk City, Newsome, Florence, and Dixie, and supporting the growth of others such as Mount Idaho and Florence. Because these communities needed many goods and services, mining was also the stimulus for the development of a transportation system within the County.

Later development of agriculture and cattle ranching occurred in the early 1900s as a result of the migration of farmers and ranchers to the Camas Prairie. With the exception of timber, these historical industries have remained stable since that time. The local area is still predominantly rural and primarily dependent upon three major industries: cattle ranching, agriculture, and timber products.

Because the local economy relies on Nez Perce Forest outputs, and because traditional leisure activities such as firewood gathering, hunting, and fishing are so important to local lifestyles, a close relationship exists between Forest management activities and lifestyles in the local area.

## 2. Special Interest Areas

The Forest contains parts of three wildernesses and all of another one, for a total of 926,188 acres. In addition, 150 miles of four rivers are classified under the National Wild and Scenic Rivers Act. Sixteen roadless areas totaling 503,162 acres are within the Forest boundaries; two of these extend into other Forests.

Wilderness alternatives for these roadless areas are considered in this document, and recommendations for any additions to the wilderness system will be included in a separate report and Record of Decision transmitted by the Administration to Congress.

Two Research Natural Areas have been established on the Forest; they total 8,015 acres. Other areas will be proposed in the Forest Plan.

## D. Special Planning Requirements

### 1. Gospel-Hump Multipurpose Resource Development Plan

The Endangered American Wilderness Act of 1978, PL 95-237, established the Gospel-Hump Wilderness, and out of lands adjacent to the Wilderness created a 45,000-acre immediate development area and a 85,000-acre Multipurpose Resource Development Area (MRDA). Section 4 of the Act requires development of a Multipurpose Resource Development Plan (MRDP) and specifies planning procedures to be used.

The Endangered American Wilderness Act also requires that MRDA planning be conducted in compliance with regulations promulgated under the National Forest Management Act; and these regulations require that one plan be prepared for the Forest as a whole.

To comply with both the Endangered American Wilderness Act and the National Forest Management Act, the plan for the Gospel-Hump Multipurpose Resource Development Area has been incorporated into the Forest Plan. Therefore, this Environmental Impact Statement is also the Environmental Impact Statement for the Gospel-Hump MRDA Plan.

The Gospel-Hump Multipurpose Resource Development Area covers 85,000 acres in three distinct areas adjacent to the Gospel-Hump Wilderness. To display the management for these areas, each is identified as a "Geographic Display Area" in Chapter IV of the Forest Plan. The direction for each area is included in the Plan in Chapter II (Forestwide Management Direction) and Chapter III (Management Area Direction). Outputs and effects from the MRDA have been included in this Environmental Impact Statement.

### 2. Contiguous Roadless Areas

Under the provisions of 36 CFR 219.17, all roadless areas on the Forest are being reconsidered for recommendation to Congress as wilderness.

Two roadless areas on the Nez Perce Forest extend into other Forests. Since administrative boundaries have no effect on wilderness capabilities of roadless areas, these areas must be considered for wilderness classification in their entirety.

Rapid River Roadless Area 1922 extends into the Payette National Forest and Rackliff-Gedney Roadless Area 1841 extends into the Clearwater National Forest. Each roadless area will be considered for wilderness in its entirety, and information and analysis will be documented in Appendix C.

## E. Public Involvement

Major public issues were identified at the outset of the Forest planning process through a series of six public workshops. Public concerns were ranked using the Nominal Group Technique. The interdisciplinary planning team then

grouped similar concerns into major categories to derive the list of major public issues and concerns to be addressed in the Nez Perce Forest Plan. Comments submitted through letters were incorporated into the listing and used also to validate issues identified through the workshops. These were published in a brochure which was distributed to interested individuals, organizations, and agencies on April 23, 1980. Public participation in the development of the ICOs is discussed in detail in Appendix A of the EIS.

Additional public involvement was initiated in September 1983, to aid in roadless area evaluation. Prior to this, the Forest had relied on earlier evaluations and recommendations made in the RARE II (Roadless Area Review and Evaluation) Final EIS. As a result of a change in NFMA regulations, the Forest included an evaluation of roadless areas for wilderness in the Forest planning process.

Following the release of the Draft EIS and proposed Forest Plan on February 22, 1985, the Nez Perce again solicited the public for comments. A complete description of the comments received is included in Chapter VI in the EIS.

The public issues, concerns, and resource management opportunities (ICOs) addressed in the Forest Plan, along with a brief summary of the comments received pertaining to each ICO, are displayed below.

1. ICO: What level of sustained annual yield of timber products should the Forest provide, while still maintaining Forest productivity and meeting local, regional, and national needs?

Comment: People commenting on this ICO wanted the allowable annual sale quantity either increased to 120 MMBF or decreased to 75 to 95 MMBF. The major reasons given for wanting the allowable sale quantity increased are: 1) education in Idaho County needs the Forestry fund; 2) timber should be harvested at a level that will sustain the sawmills at least at the present capacities to keep people employed; 3) an average annual allowable sale quantity of 120 MMBF is necessary to maintain the mills, dependent on timber from the Nez Perce, at current production levels; and 4) higher timber harvest levels can be compatible with other uses.

Reasons people gave for wanting the allowable annual sale quantity decreased include: 1) based on the demand for timber products, 85 MMBF or less will easily sustain the local timber industry without negative economic impacts to Idaho County; 2) the allowable harvest should not be increased if the amount cut each year is far below the present allowable harvest; 3) there is already a backlog of uncut timber; 4) a lower allowable harvest would be in balance with other uses and would not require large-scale advance road building; 5) too many below-cost timber sales; and 6) large amounts of timber harvested would hurt small private enterprise.

2. ICO: What is the compatibility of timber harvest, road development, water quality, and associated anadromous fish habitat?

Comment: Some people feel that if timber companies can log without damaging an area, they should be allowed to do so. Cable and aerial logging should be emphasized because of the lower potential for damage to fish habitats.

There is concern that the analyses in the Draft EIS and Plan understate the impacts which will occur to fish and their habitat. People want the documents to address cumulative impacts from activities such as roading, mining, harvesting, and grazing on the entire water system within the Forest in order to better understand the damage potential to fragile fisheries. They want stream sediment loads carefully monitored before, during, and after harvest; and if sediment loads become excessive, they want the activity modified. They point out that mitigation measures can never return a stream to the natural state and not even close to optimum levels in a lifetime.

The effect of off-Forest factors on the anadromous fish population, such as dams and commercial fishing, was mentioned by several people as factors that should be considered when determining fish habitat management on the Forest.

There were requests for a worst case analysis to be done on additions of sediment to water and the reaction of fish to the sediment. These people point out that since the need for protection will vary according to the sensitivity of the fishery and the public's perceived value assigned to the species, the fishery type or predominant species of concern for each drainage should be included.

Some people believe that the Forest should be managed for full multiple use instead of commodities, and that each resource should have equal weight regardless of economics. Comments also state that the road building budget should not be given priority over water quality improvement.

Some people feel that the Final EIS and Plan should describe how conflicts among different resources and beneficial uses would be resolved. They feel that environmental guidelines for the protection of various resources should be developed or cited, and should be applied when conflicts arise. Adequate monitoring is necessary for forest managers to best identify whether such conflicts are or are not occurring.

3. ICO: Should some or all of the Forest's roadless areas remain roadless, be opened to roaded development, or be recommended to Congress for wilderness classification?

Comment: People commenting on roadless areas want them either opened up for timber harvest, left roadless, or classified as wilderness. The reasons people give for wanting the roadless areas opened for timber harvest are: 1) The public needs to have greater access to the National Forests for recreation, especially those people who normally would not have the time, money, or physical ability to pack in; 2) a large amount of land has already been

designated wilderness, the rest of the land should be managed for multiple use; 3) roadless areas should be opened up for logging to assure a sustained yield at least as high as suggested in the Forest Plan to insure the survival of sawmills and timber-related jobs because timber, not recreation, supports our local economy; 4) large stands of timber exist that should be harvested; and 5) there would be plenty of feed for elk and deer after the areas were clearcut and reforested.

The major reasons for people wanting the areas to remain roadless are: 1) to protect wildlife, watershed, and fishery values; 2) areas are irreplaceable, once harvested, pristine values are gone forever; 3) scenic values outweigh timber values; 4) demand for recreation in unroaded areas is increasing; 5) unexcelled recreational opportunities; 6) many of the roadless areas do not have enough timber in them to make harvesting profitable; 7) timber harvest should be delayed until the demand for timber increases so that net positive returns from timber harvest exceed those from outfitters, guides, and other recreational users; 8) outfitters would be put out of business if the areas were opened to development; 9) the problem is not the additional roads that would be constructed, but the ineffectiveness of the Forest's road management (enforcement of road closures is poor).

Other people want the roadless areas recommended for wilderness classification. Their reasons include: 1) interest in wilderness experiences is going to continue to increase, and wise management of the Forest will allow for expansion; 2) a need exists for high-quality outdoor recreation opportunities; 3) wilderness values should not be foregone in favor of uneconomic timber harvesting and roading; 4) undisturbed areas need to be left for our children to enjoy; 5) areas where negative impacts upon wildlife habitat may occur should be added, thus enhancing big-game herds, providing watershed protection, and enhancing fisheries.

4. ICO: To what degree should wildlife demands be provided?

Comment: Most of the comments listed for ICO #10 also apply here.

Other comments state that the Forest should be managed for full multiple use instead of commodities, and that each resource should have equal weight regardless of economics.

Some comments point out that one of the tradeoffs of the proposed timber program will be a significant decline in old-growth-dependent species. Still others feel that existing wilderness and noncommercial forest lands should provide adequate old-growth to maintain viable populations of old-growth-dependent species.

Many comments express concern about our proposed management for old-growth habitats and associated wildlife species. The comments include: 1) managing for minimum levels of old-growth was at best very risky because we really do

not know what the lower thresholds are to maintain viable populations, and 2) the 160-year-old age criterion used in planning is not a reliable indicator of old-growth.

Many people feel that Threatened and Endangered (T&E) species habitat should be maximized, and want measures to prevent the destruction or adverse modification of T&E species habitat prescribed in the Plan. Some believe that future harvest levels may need to be lowered in order to adequately meet the T&E species goals and objectives set forth in the Plan.

People want mitigation measures developed to guard against the possibility of a drop in fish population because the growth of the bald eagle population depends on the growth of the fish population. Others felt that a site-specific nest management plan should be developed which maximizes the continued productivity of that site.

Ranchers oppose increasing the wolf population because livestock and wolves do not mix. Other people believe that we should be direct and positive in managing for recovery of wolves.

5. ICO: To what degree should motorized recreation use be preferred over nonmotorized use?

Comment: The comments were fairly equal in their preference for either motorized or nonmotorized recreation. Many people expressed a preference for driving to an area as opposed to packing in because they do not have the time, equipment, money, and/or physical ability necessary to pack in. Given a limited amount of time, these people would rather drive to the area and enjoy it, instead of hiking in and then not have enough time left to enjoy the area. Elderly people want the roads in the backcountry maintained and left open so they can visit it.

Many people would like more trails opened to motorcycle and three-wheeler use. Some people emphasized the importance of motorized recreation (off road vehicle [ORV] use) in the roadless areas because the wilderness is closed to ORVs.

Other people point out that Idaho is well known for its nonmotorized backcountry recreation and wilderness use, so they want emphasis put on nonmotorized recreation, especially in the roadless areas. They believe that there should be an adequate trail system and trails should not be opened to ORV use. They state that roads should not replace trails because they do not provide the same recreational experience or satisfaction as trails. In order to insure an enjoyable wilderness experience, they do not want any more roads in the roadless areas. After a timber sale, they want roads closed to all motorized vehicles, including ORVs, for nonmotorized recreation.

Outfitters prefer nonmotorized recreation because their business depends on it.

Some people feel that the Final EIS and Plan should describe how conflicts among different resources and beneficial uses would be resolved. They feel

that environmental guidelines for the protection of various resources should be developed or cited, and should be applied when conflicts arise. Adequate monitoring is necessary for forest managers to best identify whether such conflicts are or are not occurring.

6. ICQ: How should conflicts between competing recreational activities be settled?

Comment: Some people feel that the Final EIS and Plan should describe how conflicts among different resources and beneficial uses would be resolved. They feel that environmental guidelines for the protection of various resources should be developed or cited, and should be applied when conflicts arise. Adequate monitoring is necessary for forest managers to best identify whether such conflicts are or are not occurring.

7. ICQ: What road standards and locations are necessary to support Forest activities?

Comment: Comments stated the need to construct "minimum standard" and "minimum impact" roads in order to reduce impacts on watershed, soils, water quality, and elk. Other comments addressed the lack of maps showing the location of roads or construction areas to be used as an evaluation tool when reviewing timber harvest activities.

8. ICQ: To what extent should use be controlled to maintain the quality of wild and scenic rivers, wildernesses, and other pristine attractions?

Comment: Most of the comments pertaining to wildernesses and wild and scenic rivers related more to the desire for more or less of the wilderness or roadless area than to maintaining the quality of the area by controlling use.

9. ICQ: How should livestock grazing be balanced with other resource demands?

Comment: The major resource that people feel would be in conflict with grazing is wildlife habitat. Those people wanting more livestock grazing claim that elk and cattle are compatible and that elk numbers have actually increased due to cattle use. They also comment that too much forage has been allocated to elk habitat. Those people wanting more wildlife habitat claim that elk and cattle are not compatible as they compete for forage. They oppose increasing grazing in transitory range areas created by timber harvest because it is the same area that the Forest Service claims will be additional elk habitat. They also believe that overgrazing has resulted in damage to the wildlife habitat, and that some method of monitoring present grazing should be developed to prevent further damage.

One other resource that is in conflict with livestock grazing is riparian areas. People believe that livestock should not be allowed to graze or should at least be fenced out of sensitive areas where grazing could adversely impact the area. Other comments point out that a good rotation grazing system would improve the riparian areas.

Some people felt that the Final EIS and Plan should describe how conflicts among different resources and beneficial uses would be resolved. They felt that environmental guidelines for the protection of various resources should be developed or cited, and should be applied when conflicts arise. Adequate monitoring is necessary for forest managers to best identify whether such conflicts are or are not occurring.

10. ICO: How can timber harvest, roads, and big-game habitat needs be made compatible?

Comment: Many comments were concerned about several statements in the Plan that state "...in case of a conflict between managing for the elk summer habitat goals and meeting the allowable sale quantity, the elk summer habitat objectives will be lowered to the extent necessary to meet the allowable sale quantity." The reasons for these statements were never given. Some people feel it should be the other way around. They feel that as long as this philosophy exists, no goals or objectives for elk summer habitat will exist no matter what is stated in the Plan. Some comments state that the Forest should be managed for full multiple use instead of commodities, and that each resource should have equal weight regardless of economics.

Other people agree with the Plan in that timber harvest has the potential to increase long-term elk populations on the Forest. They believe that logging creates more forage and cover for wildlife. Others felt that a better method of wildlife management would be to use more prescribed fire and burn old, mature stands of brush on the winter ranges.

Some people are concerned that the Plan does not recognize the destructive impact of roads on elk summer range. They want to limit road construction and logging to avoid wildlife harassment and the destruction of habitat. Many comments were received stating that if an area must be roaded, then the roads should be closed to motorized travel after logging to protect wildlife, and should be monitored to make sure that there is no unauthorized use. Others believe that roads have no substantial effect on deer and elk.

One comment stated that measures imposed by the proposed Plan to maintain elk security cover are excessive and impose an unnecessary limitation on the Forest's timber management program. The adverse impacts that these measures are designed to avoid can largely be mitigated by a vigorous road management program to provide security from human disturbance and a greater diversity of hunting experiences.

Some people felt that the Final EIS and Plan should describe how conflicts among different resources and beneficial uses would be resolved. They felt that environmental guidelines for the protection of various resources should be developed or cited, and should be applied when conflicts arise. Adequate monitoring is necessary for forest managers to best identify whether such conflicts are or are not occurring.

11. ICO: What are the effects of surface resource allocations on mineral exploration and development?

Comment: The comments generally show support for the Preferred Alternative which the public feels emphasizes the well-planned development of the mineral resources while protecting other resources; however, some errors in mineral potential information were pointed out. A better display of availability of lands for mineral development for each alternative was requested.

Comments point out that mineral resources will be irretrievably lost where land is designated for wilderness, developed and dispersed recreation, cultural resources, special uses, and rights-of-way; and mineral development will probably be severely restricted under roadless area management.

Some people are against mineral and energy resource development because of the damage to surface and subsurface resources. Comments state that a Forestwide EIS should be developed to address the cumulative effects of placer mining on meadows and wetlands; and to address all aspects of cyanide mining which may impact water quality.

12. ICO: What are the effects of fire management on other resource values and uses?

Comment: Most of the people oppose letting wildfires burn, but they support fire management for wildlife habitat enhancement and insect control. These people believe that the most appropriate insect control would be to allow wildfires to burn infested areas and allow the natural regeneration of the lands. Some comments pointed out that the potential for catastrophic fires in beetle-killed timber poses a greater overall risk of environmental damage than well-designed logging operations.

Some people are against burning of wood following timber sales that could be used for firewood. A few people are against controlled burning of timbered areas in order to create browse for elk, because the timber gets burned up instead of harvested. Others feel that the burning plan now used should continue without any major changes and the funding for this plan should not be reduced.

Comments point out that prescribed fire could be in conflict with the Clean Air Act, and could affect the visibility and recreational experience in the wilderness and other airsheds.

13. ICO: What is the compatibility between management of the timber resource and desires for scenic quality?

Comment: There is a concern that timber sale costs will increase significantly because of the attempt to minimize visual quality impacts. Other comments point out that the general appearance of the Forest outside of wilderness will not change from a natural setting to one reflecting man-caused impacts if reforestation is applied correctly.

## F. Changes Between the Draft and Final EIS and Forest Plan

Following the publication of the Draft EIS and the Proposed Forest Plan, the Nez Perce National Forest asked for public comment. The overview and/or documents were mailed to people requesting them, meetings were held with special interest groups, public meetings were held at various locations, and articles appeared in local and regional newspapers. As a result, the Forest received 587 letters commenting on various subjects in the documents. Summaries of public involvement and comments received are located in Chapter VI of the EIS, along with letters received from other agencies, elected officials, and Indian Tribes, and the Forest Service response to each. All other public comments and Forest Service responses are located in Appendix E, available upon request from the Forest Supervisor's office in Grangeville, Idaho.

The Final EIS and Forest Plan reflect new data, revised management direction, additional monitoring requirements, and additional economic analyses. Many of these changes are due to public comment. The changes between the Draft and Final EIS and Forest Plan as a result of public comments and Forest Service reviews are summarized below.

### 1. Economics

Certain issues were raised by the public in regard to economics contained in the Draft EIS and the Proposed Forest Plan. These issues are listed below along with the corresponding changes.

A concern was raised over the lack of attention given in the Draft EIS to the recreation and tourism industry, and the impacts on outfitters and guides in the local economy. In response to this concern, a discussion of the economic impacts of each alternative on outfitters and guides and other recreational business sectors, and the timber industry has been included in Chapter II and Appendix B of the Final EIS. Also, a discussion of the importance of the recreation/tourism industry was included in Chapters II, III, and IV of the Final EIS.

There was a concern over the use of timber values and their projections as well as the valuation of wildlife/recreation outputs. In response to this concern, a sensitivity analysis was completed using updated timber prices and projections and updated wildlife/recreation values. This analysis is contained in Appendix D.

A concern was raised about the overall timber supply in Northern Idaho and how the National Forests could respond to a change in demand given the suitable landbase and allowable sale quantity (ASQ) in their Preferred Alternative. In response to this concern, the Forest Service completed a timber supply study for the State of Idaho. Additional analysis was done by this Forest to incorporate the information from this study and analyze timber land suitability and additional ASQ for the Preferred Alternative. See Chapter II and Appendix D of the Final EIS.

Due to national level concerns, the analysis of costs and benefits, and net public benefits of and between alternatives has been expanded, and the results of this analysis are discussed in detail.

In response to both public comments and national level concerns, a discussion of the "below-cost" sale situation on the Forest has been incorporated into the discussion of the timber resource. There have been some years during the past ten years, where timber-related costs have not been recovered by Forestwide timber sale receipts. This has been a growing management concern and emphasis in reducing timber-related costs has been directed by the Regional Office.

It should be noted that the ability to recover costs on individual sales is not a specific criterion in the determination of timberland suitability for any alternative, but that economic efficiency and attainment of non-priced benefits in response to issues and concerns are criterion in selecting a Preferred Alternative.

## 2. Vegetative practices

The discussion of even-aged and uneven-aged silvicultural systems was expanded in response to national and regional level concerns and public comment. Each system can be appropriate for use under conditions where management objectives can be met, where the physical characteristics of the land allow, and where vegetative needs are provided. These general criteria are further expanded. See EIS Chapter II, Section D, and Chapter IV.

## 3. Alternatives

### Preferred Alternative G

All of the changes to Preferred Alternative G were made in response to public comment. They are: 1) fish and water quality objectives have been increased in 64 drainages; 2) anadromous fish potential will be managed at 87 percent of habitat potential Forestwide; 3) prescribed burning to improve elk and deer winter range has been increased from 2,700 to 5,000 acres per year; 4) road construction and timber harvest activities will not be scheduled in most of West Meadow Creek roadless area for the Plan period (1988-1997); 5) approximately 13,300 acres will be managed without additional roads in the Silver Creek-Pilot Knob roadless area; 6) Rackliff-Gedney will be managed with road improvements and additions--approximately 11,000 acres will be available for harvest; 7) the average annual allowable sale quantity of timber was increased from 102 MMBF to 108 MMBF--1 MMBF is the result of an increase in suitable acres, the other 5-MMBF increase is a non-interchangeable component linked specifically to timber that does not meet minimum saw timber utilization standards. Included in this non-interchangeable component is live and dead material that can be utilized for pulp, lumber, and other merchantable products; 8) in the Draft Preferred Alternative, some riparian acres were included in the suitable timber base and some acres were assigned minimum level management. For consistency purposes, all riparian acres are included in the suitable base, but any harvesting activities on riparian acres would be

reviewed under the Forest Plan, 9) the visual quality objectives for trails in the John's Creek area have been increased, and (10) constraints to meet these specific resource and economic objectives have been added.

#### Alternative G1

The original intent of Alternative G1 was to analyze the effects of allowing the Preferred Alternative to depart from the long-term sustained yield capacity (LTSYC). The assumptions presented in the Draft were that the multiple use objectives for resources such as fish habitat, wildlife, recreation, etc. would be the same as stated in Alternative G. To accomplish this, the activity schedules were the same for the first 4 decades; however, the timber volume scheduled for harvest varied slightly over the first 3 decades between Alternatives G1 and G. Beginning in the fifth decade, the timber harvest level in Alternative G1 was allowed to exceed the LTSYC, then to decline to the LTSYC by the fifteenth decade. We assume that the modifications to Alternative G outlined above would also apply to Alternative G1.

#### 4. Roadless Areas

The Mallard and Gospel-Hump (Jersey-Jack) roadless area boundaries were changed back to the original RARE II boundaries. This change was made in response to a public comment concerned that the Forest adjusted the RARE II boundaries because of timber sale and road construction activities that the Forest expected to have taken place, but have not. The acreage of the Mallard roadless area increased from 17,232 acres to 23,232 acres, and the acreage of the Gospel-Hump roadless area increased from 28,907 acres to 54,321 acres.

#### 5. Monitoring Plan

In response to public comments, Appendix P has been added to the Forest Plan which provides more explanation and detail for the Forest Plan monitoring requirements; and a discussion has been added in Chapter V of the Plan explaining how a reduced budget would affect the monitoring program.

#### 6. Timber Utilization Standards

The Preferred Alternative (Alternative G) and the Maximum PNV benchmark have been analyzed using both current timber utilization standards and those proposed in the Northern Regional Guide. Timber volume outputs and the effect on Present Net Value are displayed in Chapter II of the EIS.

## 7. Wildlife and Threatened and Endangered Species

Information pertaining to the grizzly bear and threatened and endangered (T&E) species in general has been added in Chapters II and III of the EIS. This includes descriptions of the ecosystem, management situations, potential capacity, and mortality data for the grizzly bear. Discussions of the Forest situation and management efforts, and the biological opinion of the Fish and Wildlife Service on threatened and endangered species are also included in these chapters.

A list of "sensitive" wildlife species found in the Nez Perce Forest was not available when the Draft EIS went to print. These species have been added to the Wildlife section in Chapter III of the Final EIS.

We received many comments concerning the statement "...summer elk habitat objectives will be lowered to the extent necessary to allow for the allowable sale quantity to be met." This is contrary to the goal of the Preferred Alternative and is incompatible with sound big-game and T&E species management. This statement has been deleted from the Plan. The elk summer habitat management objectives will be met. The flexibility to reduce elk objectives to meet timber objectives at the project level no longer exists.

Other changes to the Preferred Alternative that will significantly reduce the chance of conflict between T&E species/elk management objectives and timber/road management objectives include the establishment of management policy and direction for the development and enforcement of road closures; no road construction or timber harvesting activities will be implemented during the Plan period in the portion of the West Meadow Creek roadless area that is within the Meadow Creek drainage; and no timber harvest or road construction activities will be allowed within the Gospel-Hump or Mallard roadless areas until a more site-specific EIS is prepared which includes a detailed analysis of the cumulative effects, management opportunities, and management strategies for these areas.

## 8. Research Natural Areas

In response to Regional Office direction and public comments, a discussion of the environmental consequences of establishing research natural areas (RNAs) was included in Chapter IV of the EIS. Also, Square Mountain (one of the proposed RNAs) was inadvertently omitted from the list in the proposed Plan; and Upper Newsome Creek was evaluated and proposed as an RNA for Taxus brevifolia. They have been added to the list in the Final Plan.

## 9. Recreation

Descriptions in Chapters III and IV of the EIS of the Recreation Opportunity Spectrum (ROS) system, the recreation potential on the Forest, and the effects that timber harvest and road construction activities have on recreation were expanded in response to public comments.

### 10. Wild and Scenic Rivers

The addition of the documentation of the eligibility of rivers on the Forest to be included in the Wild and Scenic River System occurred as a result of public response to some Draft EISs in the Region, and national direction for all Forests to include this information. This information has been added to Chapter III of the Final EIS and Chapter II and Appendix P of the Plan.

### 11. Minerals

In response to Regional Office comments, information about oil and gas leases and lands withdrawn from mineral entry has been included, along with updated mineral information in general. See Chapters II, III, and IV in the EIS.

### 12. Small Hydro

In response to public comments, two Forestwide standards were added to the Forest Plan concerning issuance of special use permits for the construction of small hydro-power developments, and analyses of small hydro-power developments for individual and cumulative adverse impacts.

### 13. Plan Period

In response to regional and national level concerns to alleviate confusion over the period in which the Preferred Alternative is to be implemented, the following paragraph has been included in the EIS. Also, tables, figures, and text have been changed where necessary to better clarify the distinction between the Plan Period (first decade) and projected out-decades.

The Forest Plan will guide management of the Forest for the next 10 to 15 years unless conditions or demands significantly change. The analysis in the EIS projects outputs and effects for up to 150 years to indicate the long-term implications of continuing with the Plan. While long-range effects have been estimated, the Plan is valid until it is revised, committing the Forest to a course of action no longer than 15 years.

### 14. Editorial changes

We received comments which offered technical corrections, and pointed out inconsistencies and the need for clarification. These have been checked and used to revise the documents where applicable. Other editorial changes have also occurred. These changes are designed to correct insignificant errors or to clarify previous wording. The original content has been retained.

### G. Reader's Guide

The remainder of the EIS is organized as follows:

Chapter II describes alternatives by showing the resource outputs, costs, benefits, and major effects of meeting the objectives of each alternative. The environmental, economic, and social effects of alternatives are briefly compared.

Chapter III provides a brief discussion of the existing condition of physical, biological, social, and economic components of the environment that may be affected by Forest management.

Chapter IV identifies the environmental consequences which could result from Forest management activities scheduled in each alternative.

Chapter V lists the people who have been involved in the preparation of the Draft and Final Forest Plan, and the Draft and Final Environmental Impact Statement.

Chapter VI summarizes public participation activities, public comments, how the comments were used, and lists the names of those who commented. It also includes copies of letters from federal agencies, elected officials, and Indian tribes, along with the Forest Service response to each. All other letters along with the Forest Service responses are located in Appendix E.

The Glossary is located in Chapter VII and contains definitions of technical terms and abbreviations.

Chapter VIII contains the Index and Chapter IX lists the references.

The Appendices, located in a separate document, provide detailed subject information. Appendix A contains issue identification, Appendix B contains a description of the analysis process, Appendix C contains site-specific roadless area data, Appendix D contains the sensitivity analysis, and Appendix E contains letters from individuals concerned about the proposed Plan and Draft EIS along with the Forest Service response to each.

Planning records, which document the planning process, are available for review at the Forest Supervisor's Office, Rt. 2, Box 475, Grangeville, ID 83530.

## A. Introduction

This chapter presents the development, description, and comparison of alternative ways of managing the Forest's land and resources. The development process involves an analysis of the management situation which includes a determination of minimum and maximum resource and value potentials. This step identifies the capabilities of the Forest (see section B).

The alternative descriptions identify the objectives of each alternative, briefly describe how the alternative was formulated and how it responds to issues and major management concerns, including resource and economic results (see section C). Section D compares alternatives by resource outputs, social and economic effects, response to major issues, and nonpriced benefits.

As a result of public comment and additional analysis, several changes have been made to Chapter II since the Draft EIS. These are summarized below. Also, corrections to text, tables, and figures have been incorporated.

- A discussion of the "below-cost" sales situation on the Forest has been incorporated into the discussion of alternatives;
- The discussion of silvicultural systems has been expanded to clarify which uneven-aged and even-aged systems were considered and under what conditions clear cutting is considered to be optimal on the Forest;
- The Preferred Alternative (Alternative G) and the Maximum PNW benchmark have been analyzed using both current timber utilization standards and those proposed in the Northern Region Guide. Timber volume outputs and the effect on Present Net Value are displayed.
- A discussion on the importance of the recreation and tourism industry to the local economy has been included;
- A discussion of the economic impacts on the forest-related industries of timber, outfitters and guides, and other recreation sectors has been included for each alternative and compared across alternatives;
- The analysis of costs and benefits and net public benefits of and between alternatives has been expanded. The results of these analyses are discussed in detail.
- The Mallard and Gospel-Hump (Jersey-Jack) roadless area boundaries were changed back to the original RARE II boundaries. This change was made in response to a public comment concerned that the Forest adjusted the RARE II boundaries because of timber sale and road building activities that the Forest expected to have taken place but have not.
- A discussion of the State of Idaho Timber Supply Study and the results of additional timber supply and demand analysis for the Nez Perce National Forest is included in this Chapter.

## B. Alternative Development

### 1. Overview

Forest planning began by identifying public issues and management concerns. Refer to Appendix A for a description of this process. Once the issues were known, information was needed to determine the Forest's capability to respond to each issue. This step was the analysis of the management situation (AMS) which examined resource data, economics information, and environmental and legal considerations.

During this analysis, resource supply potentials were determined by establishing minimum and maximum production levels called benchmarks. Production capabilities were determined for single resources as well as for sets of multiple resource outputs produced in the most cost-efficient way. These benchmarks served as references from which the costs and effects of various objectives and constraints used in developing alternatives were evaluated.

Alternatives were developed that respond to issues, present net value (PNV), and net public benefits (NPB). A single, numeric NPB value was not calculated since monetary values associated with some resources, such as timber, cannot be added to the qualitative value of nonpriced benefits, such as scenic quality. An understanding of the various types of values and interrelationships associated with Forest outputs aids decisionmakers in the selection of an alternative that maximizes net public benefits and present net value. See Appendix B, section IV for a further discussion of NPB.

The alternative development process used here is outlined in 36 CFR 219.12(f). These regulations include the following goals for alternative formulation:

- Provide a basis for identifying the alternative that maximizes net public benefits.
- Distribute alternatives between the minimum and maximum resource potential and reflect a range of environmental resource uses and expenditure levels.
- Analyze the opportunity costs and tradeoffs.
- Evaluate the effects on present net value, benefits, and costs.
- Provide different ways to respond to major public issues.

Several changes were made to the alternatives between the Draft and Final EIS. A summary of these changes are located in the "Description of Alternatives" section of this Chapter.

## 2. Analysis of the Management Situation

The analysis of the management situation determined resource supply potentials by establishing minimum and maximum production levels called benchmarks. A level was also established from which the costs and effects of applying regulation and policy constraints were measured. Production capabilities were determined for single resources and for a set of multiple resource outputs that maximized present net value. This analysis established the benchmark levels required by National Forest Management Act (NFMA) regulation 219.12e.

### a. Benchmark Levels

Eight benchmark levels were developed to define resource supply potentials and economic relationships on the Forest. Production capabilities were determined for a minimum level, for single resources, and for a set of multiple resource outputs that maximize present net value (NFMA regulation 219.12e). A level was also established from which the costs and effects of applying regulation and policy constraints were measured. The computer model FORPLAN was used to help determine the resource supply potentials.

The benchmark levels and analyses are summarized in this chapter. Appendix B, Section VI, provides a detailed discussion of the benchmark levels.

### (1) Constraints and Minimum Management Requirements

Regulation and policy constraints applied to benchmarks have, in most cases, the effect of reducing the maximum resource supply potential. NFMA regulation 219.27 specifies that certain minimum management requirements (MMRs) be included in the planning process. The methods to meet these minimum management requirements include developing standards, guidelines, and appropriate management practices for inclusion in multiple-use management prescriptions; assignment of management prescriptions and intensities containing specific practices to analysis areas in FORPLAN; and applying specific constraints in FORPLAN.

The minimum management requirements used in this analysis are designed to:

- Conserve soil and water resources.
- Minimize serious or long-lasting hazards from flood, wind, wildfire, erosion, or other natural physical forces.
- Reduce serious, long-lasting hazards or damage from pest organisms.
- Protect riparian zones.
- Maintain diversity of plant and animal communities.
- Provide adequate fish and wildlife habitat to maintain viable populations.

- Conform with multiple-use laws.
- Prevent the destruction or adverse modification of critical threatened and endangered species habitat.
- Provide for utility and transportation rights-of-way and corridors.
- Ensure roads are designed to standards appropriate to planned uses.
- Revegetate temporary roads within 10 years.
- Maintain air quality.
- Restock within 5 years after final harvest.
- Adhere to clearcut size limits.

A complete description of the minimum management requirements can be found in Appendix B, Section VI.

Except for the minimum level benchmark, all benchmarks were constrained as follows:

- All benchmarks complied with minimum management requirements.
- An ending timber inventory constraint was used so that the timber inventory in 150 years will equal or exceed the volume that would occur on a regulated Forest.
- Timber rotation period was based on proposed timber utilization standards except in the Maximum Present Net Value and the Current Management Benchmarks. These two benchmarks used a culmination of mean annual increment (CMAI) constraint to determine the rotation period.
- A timber harvest flow constraint using sequential bounds of either a 25 percent increase or decrease was used to limit fluctuations in timber outputs in all but the Maximum Present Net Value and the Current Management Benchmarks. These two benchmarks have a nondeclining yield-evenflow constraint.
- An objective function of maximizing present net value (PNV) was used.
- A minimum level of the existing wilderness acres (926,188) was maintained in all benchmarks.
- The minimum level benchmark was constrained to produce no management outputs such as timber harvest and livestock grazing and to determine the basic cost of Federal ownership.

Further discussion of constraints can be found in Appendix B, Section VII.

---

(2) Benchmark Descriptions

Benchmarks were developed to determine the production capabilities for single resources as well as for sets of multiple resource outputs produced by the most cost-efficient means.

Several variations of the benchmarks were developed to determine the opportunity cost and resource tradeoffs of meeting specific constraints, objectives, regulations, and policies. The benchmarks and the variations were eliminated from further development and analysis because they served as reference points from which costs and effects of various objectives and constraints could be used in developing alternatives which were developed to respond to issues concerns and objectives.

(a) Maximum Present Net Value

This benchmark established the mix of resource uses and schedule of outputs and costs that maximized present net value (PNV) using market and nonmarket assigned values. Minimum management requirements were met, and the timber harvest flow was nondeclining. Information from this benchmark was used to help develop Alternative D. This benchmark is displayed in this EIS when a comparison of alternatives is made in order to provide a reference to the maximum present net value potential considered.

(b) Maximum Timber

The maximum legal capability of the Forest to produce timber was determined by this benchmark. Timber production was maximized in the first five decades based on a 25 percent sequential upper and lower bounds flow and meeting minimum management requirements. This benchmark was not carried forward as an alternative because it does not adequately provide for multiple uses. It also is not responsive to the Forest issues and concerns. However, this benchmark was used to develop and test the range of alternative timber outputs.

(c) Maximum Elk Habitat on Winter Range

The purpose of this benchmark was to analyze the potential for elk based on the availability of forage on winter range. This benchmark established the maximum potential for elk based on forage production, but it was not carried forward as an alternative since it does not adequately provide for other multiple resource uses. It was used to develop potential elk carrying capacity in several of the alternatives.

(d) Maximum Livestock Range

This benchmark was designed to determine the maximum level of forage production for domestic livestock grazing. This benchmark was used to test the range of alternative livestock outputs, and the feasibility of meeting Resource Planning Act (RPA) targets for livestock. This benchmark was not carried forward as an alternative because of the limited response to the other issues and concerns.

(e) Maximum Wilderness

Wilderness was maximized by assigning all inventoried roadless areas to wilderness. The benchmark determined the benefits, costs, and outputs of wilderness. This benchmark was modified and carried forward as Alternative H.

(f) Maximum Market

The purpose of this benchmark was to provide a comparison of the changes in allocation and scheduling based solely on the values of the market outputs of grazing and timber harvest, and to determine the effects of nonmarket values on PNV. This benchmark was not carried forward as an alternative because it does not value the nonmarket outputs such as recreation and wildlife in the objective function. It was used as an analysis tool in the comparison of the alternatives.

(g) Minimum Level

This benchmark defined the minimum costs of public landownership and the resource outputs which are incidental to Forest management. This benchmark served as a minimum reference point to develop and test alternative outputs and costs which result from Forest Service management activities. This benchmark is displayed in this EIS when a comparison of alternatives is made in order to provide a reference to the minimum level considered.

(h) Current Direction

This benchmark defined the current level and likely amount of goods and services expected in the future if current management direction is followed with no budget constraint. This benchmark was modified and used to formulate Alternative A (No Action).

(1) Variations of Previously Discussed Benchmarks

Sixteen other benchmarks were developed that were variations of those discussed. These benchmark levels examined impacts and costs of the various constraints or objectives. They are described in detail in Appendix B, Section VI.

(3) Benchmark Analysis

Analysis of the benchmarks established upper and lower potential production levels for selected resources. Additional analysis was done to estimate projected use levels. The following resources were analyzed:

(a) Recreation

The Forest's current recreation use is 866,600 Recreation Visitor Days (RVDs) that span the Recreation Opportunity Spectrum (ROS) (FSH 1909.12, Chapter 500) classes of Primitive (P), Semiprimitive Non-Motorized (SPNM), Semiprimitive Motorized (SPM), Roaded Natural Appearing (RNA), and Rural (R). There is no

urban class of use on the Forest. Recreation use is also categorized into developed and dispersed recreation.

Developed recreation on the Nez Perce National Forest occurs primarily in campgrounds and picnic areas. Current capacity of developed facilities on the Forest exceeds projected levels of use until the year 2010. By the year 2030, capacity will be exceeded by 53 percent (Pacific Northwest River Basin Commission, 1975). Current capacity meets RPA (1980) objectives through the first decade only. This may change locally based upon recreation trends, public needs, and decisions to meet emerging opportunities.

The Forest's current recreation use on developed sites based on 1980 figures is 145,800 RVDs. By the second decade (1996-2005), use is projected to be 162,200 RVDs per year (Pacific Northwest River Basin Commission, 1975). Through the first five decades, RPA (1980) objectives are 178,800, 197,500, 206,800, 240,300 and 278,000 RVDs. The Forest could meet developed recreation demand and RPA (1980) targets through the development of potential sites currently inventoried.

Dispersed recreation takes place on lands and waters that are not developed for intensive recreation use. Activities include hiking, fishing, hunting, boating, and pleasure driving, to name a few. Some of these items are provided by the outfitter and guide industry, but the majority are done by individuals. It should be noted that there is a direct relationship between the total miles of road and the potential number of recreation visitor days produced. That is, roaded ROS classes produce higher per-acre outputs than semiprimitive and primitive ROS classes. If the Forest were fully roaded (excluding all classified areas) the legal maximum output would be 10,105,000 RVDs per year but this would also change the current mix of ROS classes and, thus, the opportunities that are currently represented on the Forest.

Nonwilderness dispersed recreation use in 1980 was 590,800 RVDs. Projections show that in the next 50 years, recreation use is expected to increase 113 percent (Pacific Northwest River Basin Commission, 1975). Use is projected to be 668,300 RVDs per year in decade 1 (1988-1997) and 1,188,600 by decade 5 (2026-2035). The current level of nonwilderness dispersed recreation use exceeds RPA (1980) objectives through the first five decades (532,600 RVDs by decade 5).

(b) Wilderness

Current wilderness use (based on 1980 figures) on the Forest is about 120,000 RVDs per year. Use is projected to increase 22 percent in the first decade and 120 percent by the fifth decade (Pacific Northwest River Basin Commission, 1975). In terms of total capacity, visitor days available exceed present demand and should continue to be adequate in the Plan period. Thus each wilderness can sustain higher levels of use. This, however, will require a higher intensity of management to avoid a decrease in quality while accommodating increased use. An increased level of funding would allow more visitor contacts and public education efforts, would improve trail maintenance, and would help achieve an improved distribution of wilderness users. It could also help divert some

wilderness recreation use to dispersed recreation in roadless areas, which could improve the ability of the Forest to handle expected increased use.

(c) Livestock Forage

With outfitter and guide use, recreational livestock use, and permitted domestic livestock, the Forest grazing totals 42,000 animal unit months (AUMs). The total allowable use is based on 35 percent utilization of available forage for livestock and 15 percent for current populations of big game under a moderate level of management. Due to resource conflicts, nine grazing allotments are vacant and have been for 10 to 15 years. Although the maximum grazing capacity is about 93,000 AUMs, the total available is 59,300. The difference is accounted for by vacant allotments, wildlife utilization, and adjustments for secondary range unavailable due to remoteness or other factors. The capacity exists to meet RPA (1980) targets in all decades.

Opportunities exist to both increase the number of AUMs and to improve existing range conditions through a more intensive level of management. The Northern Region has been assigned (RPA) an increase of 29 percent by 2030 to meet the demand for livestock. Because 81 percent of Idaho County is administered by the Forest Service and livestock numbers have substantially increased, applications for grazing permits are expected to increase over the next 50 years.

(d) Wildlife

Because elk is the big-game indicator species, opportunities for change are directed to that species. In 1980, the Idaho Department of Fish and Game estimated 17,000 elk summered on the Forest and 12,000 elk wintered here. Regional targets of 11,200 animals by the year 2000 can be attained. The Idaho Department of Fish and Game specifies targets for 1990 that would increase the number of elk produced on winter range to 17,200 and on summer range to 23,500. The biological potential for elk production on the Forest is estimated at 36,480 elk.

Analysis shows that the demand for more elk from winter range will require a habitat improvement program, and for summer range an intensive road management program. The winter range needs and opportunities include increasing carrying capacity by prescribed fire and shortened rotations of timber harvest. Needs of other species can be met through coordination with timber management activities and old-growth management.

Opportunities exist to increase the number of hunting opportunities as demand is projected to more than double by the year 2030 (Pacific Northwest River Basin Commission, 1975). This assumes big game hunting regulations will remain essentially unchanged.

Where a threatened or endangered species such as the bald eagle or peregrine falcon is known to inhabit the Forest, management activities will be guided by both formal and informal consultations with the U.S. Fish and Wildlife Service.

In the case of gray wolves, 53 sightings, either of animals or tracks, have been reported on the Forest since 1974. The Frank Church-River of No Return Wilderness, Gospel-Hump Wilderness, Selway-Bitterroot Wilderness, and adjacent unroaded drainages provide habitat where wolves could be relatively free from contact with man. One of the most important criteria for wolf recovery is maintenance of a prey base. Opportunities to increase elk levels would meet this need.

Observations over the relatively recent past indicate that a small number of grizzly bears occupy the Selway-Bitterroot ecosystem. Because of its vastness, diversity, and lack of development, this area offers opportunity to manage for grizzly bear recovery.

(e) Fishery

The biological potential for wild fish production on the Nez Perce Forest is estimated at 821,000 anadromous fish and 423,000 catchable trout. The Forest has about 954 miles of stream habitat available for anadromous and resident fish production. An additional 400 miles is available for resident production only. Numbers of adult chinook salmon and, to a lesser degree, steelhead returning to the Forest are below natural potential, primarily because of problems downstream.

The demand for anadromous fish production is a complex interaction of Federal, State, local, and Native American interests which includes recreational and cultural experiences (fishing), ecological preservation, and commercial production. Use projections show that resident sport fishing will increase 18 percent during the next decade and 51 percent during the next 50 years (Pacific Northwest River Basin Commission, 1975). An opportunity exists to increase anadromous fish populations if downstream mortalities are corrected. Current management direction and proposed activities will produce sediment in streams and degrade the fish habitat to some degree.

Spring chinook salmon, steelhead trout, and westslope cutthroat trout were the species used to indicate effects of management activities.

(f) Timber

Current management, defined by the modeling of current land use assignments, projects a long-term sustained yield capacity of 180 MMBF per year. In terms of the balance of age classes desirable for forest regulation, there is a definite shortage in both the seedling/sapling and poletimber condition classes on the Forest. Based on the 1973 inventory data, 80-82 percent of the commercial forest land is sawtimber, 12 percent is poletimber, and 6-8 percent is seedling/sapling. Approximately 3 percent has been identified as nonstocked. This imbalance in the age/condition class structure presents several problems to timber management, both in the present and in the future. Some of these problems include potential growth loss in overmature stands and increasing susceptibility to insects and disease due to declining vigor (Smith, 1962).

Opportunities exist to increase the sustained yield capacity. By maximizing timber resource production, a sustained yield of 235.3 MMBF per year could be attained by the year 2030. This more than meets the RPA (1980) target of 203 MMBF assigned for the fifth decade, and it is well over the average annual sale program level of 102 MMBF between 1974 and 1983. The present milling capacity in the local area is 135 MMBF. Mills outside of the Idaho County have purchased an average of 10 MMBF annually from the Forest.

Opportunities also exist to shift timber harvest from areas where it has been disproportionately heavy to lands that have been unroaded or require harvest systems not previously available. This would have the effect of distributing potential impacts from timber harvest and road construction over a greater area.

Lands suitable for timber production range from no acres in the Minimum Level benchmark to a maximum of 1,070,414 acres in the Maximum Timber benchmark.

(g) Present Net Value (PNV)

The maximum PNV of the Forest is \$1,119 million as defined by the maximum present net value benchmark, which meets minimum management requirements and precludes timber management from existing wilderness.

(h) Discounted Cost

The minimum discounted cost of \$20 million is represented by the minimum level benchmark.

(i) Employment

Current (1980) Forest-related contribution to private sector employment is 2,065 jobs (10 percent of Regional total). This ranges from 1,006 in the Minimum Level benchmark to 4,208 in the Maximum Present Net Value benchmark.

### 3. Range of Alternatives

#### a. Information Used to Develop Alternatives

The benchmarks presented in the previous section were used to develop alternatives that represent a range of resource outputs. The benchmarks established upper and lower production levels for these outputs. For example, the timber and minimum level benchmarks show that the timber base sale levels can range from a minimum of zero to a maximum of 230 million board feet (MMBF) per year in the first decade. In most cases, benchmarks were not carried forward as alternatives because they were responsive to only one of several resource issues. Alternatives were designed to span the benchmark range while meeting policy constraints such as riparian protection, minimum harvest levels of anadromous fish, and other multiple-resource objectives. The PNV benchmark was used to determine differing effects of emphasizing various outputs and provided a basis for changing alternative activities to optimize PNV while still

meeting the objectives. The current direction benchmark was used to develop the current program (the "no action" alternative).

The benchmark analysis also aided in addressing the broad range of public issues and management concerns. The issues and concerns centered around a stable timber supply, adequate habitat for fish and game, roadless areas, and recreation opportunities.

Using the FORPLAN model, alternatives were formulated to be economically efficient while other factors (i.e., fish/water quality) were established as objectives to be achieved for each alternative. The alternatives range from emphasizing resources that are priced and have market outputs to emphasizing nonpriced, nonmarket outputs. Multiple-use prescriptions are used in all alternatives. Considerable effort was given to developing feasible solutions that have a variety of mixes, as well as considering roadless areas for wilderness, roadless, or other resource management. Each roadless area was allocated to wilderness in at least one alternative. One alternative allocates all of the roadless area to wilderness and evaluates the opportunity for increasing commodity outputs on roaded lands. One alternative was designed to meet all RPA targets identified in the Regional Guide.

b. Adequate Range of Alternatives

An adequate range of alternatives was developed by first formulating alternatives that were required by regulations or policy. This included one alternative that reflected the current program (Alternative A), one that recommended wilderness classification for all roadless lands (Alternative H), one that responded to the 1980 RPA program (Alternative E), one that recommended wilderness classification for a substantial portion of the roadless area while maximizing commodity production on the remainder of the Forest (Alternative I), one that emphasized market commodities (Alternative D), and one that emphasized nonmarket resources like water, fish, wildlife, and recreation (Alternative C).

These alternatives were then examined to determine where they fit in the range of outputs expressed by the benchmarks.

Differing themes of management were then developed which responded in various ways to the issues, concerns, and roadless area evaluation principles. Rather than try to combine all nonmarket values into one required alternative, five alternatives were designed. One emphasized wildlife and fish with a minimum level of timber management (Alternative F) and another emphasized wildlife and fish and provided a high level of market outputs (Alternative G). Four alternatives provided different assignments of lands to wilderness:

- Alternative I recommends 326,617 roadless acres for wilderness and emphasizes a high level of market outputs on nonwilderness lands.
- Alternative J recommends 219,105 roadless acres for wilderness and emphasizes a high level of market outputs on nonwilderness lands.

- Alternative K recommends 172,966 roadless acres for wilderness and emphasizes fish and wildlife on nonwilderness lands.
- Alternative L recommends 94,203 roadless acres for wilderness and emphasizes fish and wildlife on nonwilderness lands.

Timber harvest schedules departing from nondeclining yield were also analyzed in Alternatives G and H.

All of the alternatives were tested against the benchmark capacities in order to determine if a wide range had been provided to respond to major issues. This comparison is shown in Figure II-1 and in Section D of this chapter.

**Figure II-1**  
**Range of Alternatives' Responsiveness to Major Issues**  
 (CD) - Current Direction (PA) - Preferred Alternative

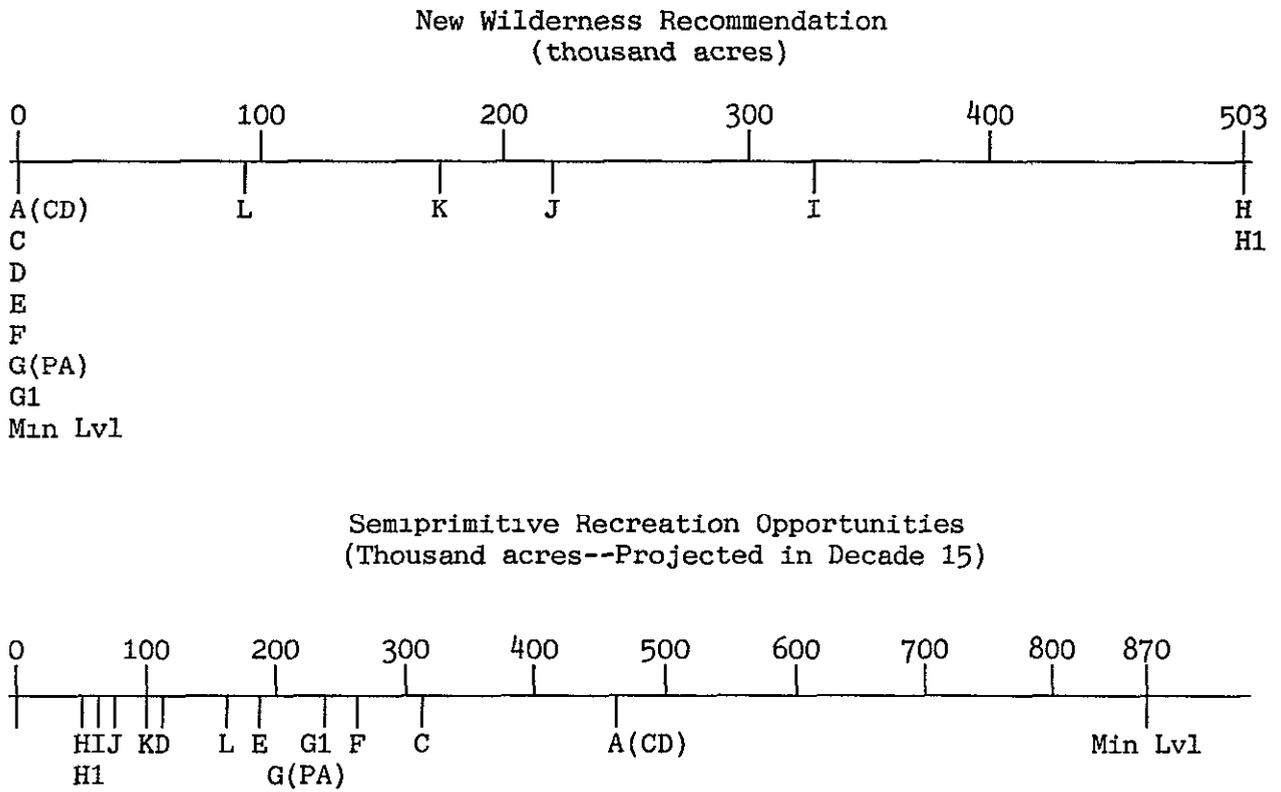


Figure II-1 (Continued)  
 Range of Alternatives' Responsiveness to Major Issues  
 (CD) - Current Direction (PA) - Preferred Alternative

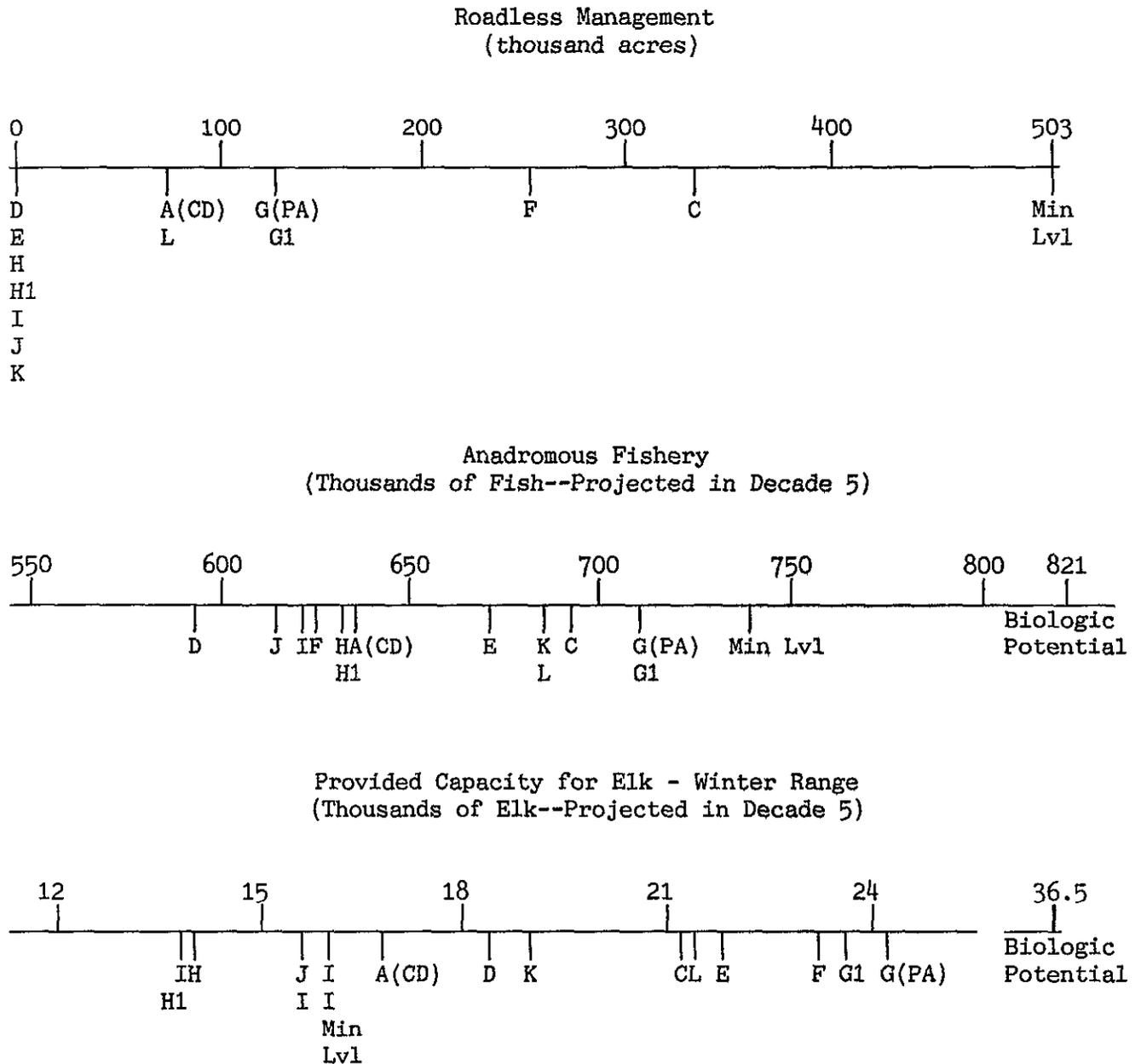
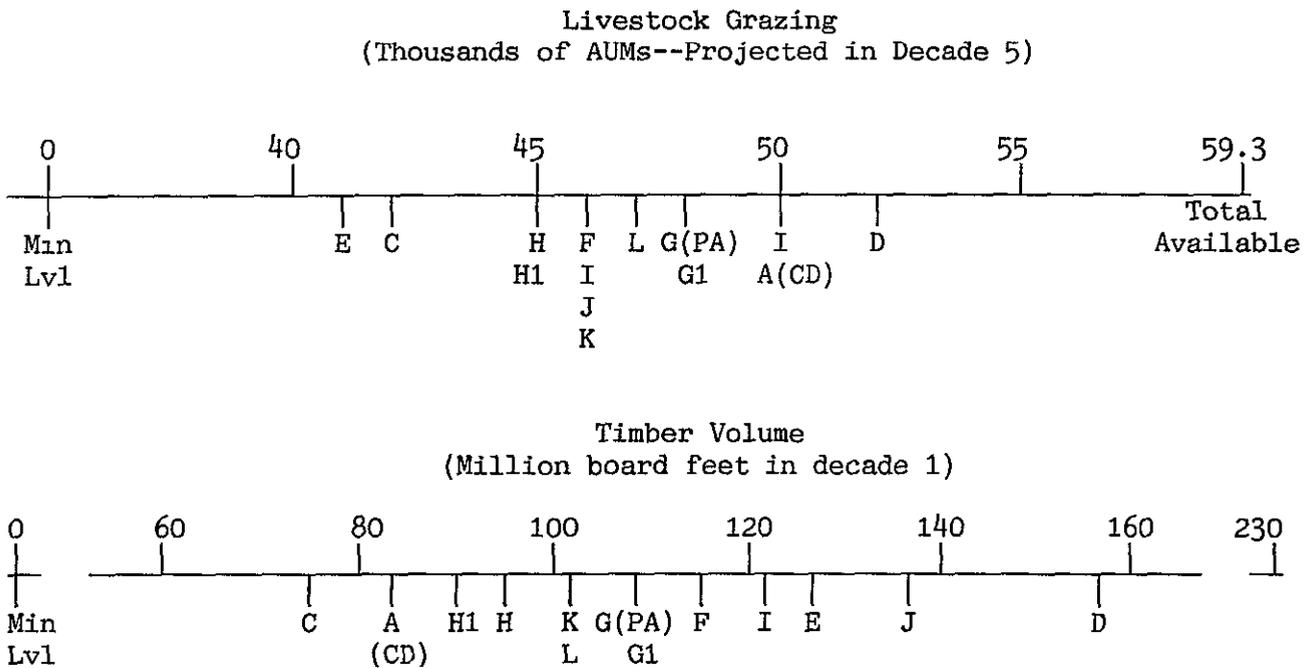


Figure II-1 (Continued)  
 Range of Alternatives' Responsiveness to Major Issues  
 (CD) - Current Direction (PA) - Preferred Alternative



Analysis of these comparisons showed that there was an adequate range of resource outputs and multiple-use land assignments.

c. Constraints Used to Develop Alternatives

The FORPLAN model was used in developing each alternative. The objectives to be achieved by each alternative were modeled by placing constraints within the model. While each alternative uses a somewhat unique theme, several legally required constraints are applied to all alternatives. These common constraints are more fully discussed in Appendix B, Section VII-B, and are only briefly described here.

Mitigation measures were incorporated in the multiple-use prescriptions, as well as management standards and minimum management requirements discussed. These are also discussed in Appendix B, Section III-D and VI-B.

The common constraints used to meet minimum requirements in all alternatives are:

- Timber harvest is nondeclining, except for the departure alternatives, with an ending inventory constraint.
- A minimum rotation age for timber is imposed where 95 percent culmination of mean annual increment (CMAI) occurs.
- Existing wilderness and special areas are maintained at 1,013,825 acres.
- Present net value is maximized.
- Timber harvest levels in the first decade are limited to no more than 20 MMBF below current annual harvest, 97 MMBF, or 20 MMBF above local sawmill capacity, 135 MMBF.
- The amount of road construction access to analysis areas 400 acres in size and larger is restricted in the first four decades to protect water, soil and fishery.
- Timber harvest within riparian areas is limited to 10 percent of that particular riparian area per decade.
- A minimum of 10 percent old growth is maintained on the suitable timber lands. A minimum of 5 percent existing old growth is maintained on any prescription watershed. An additional 5 percent is maintained as replacement old-growth stands in the same drainages.
- Regeneration harvest is limited in the first two decades to levels that provide for minimum harvestable levels of anadromous and resident fish.

### C. Description of Alternatives

Changes in alternatives between the Draft and Final EIS, alternatives eliminated from detailed study, and the alternatives considered in detail are described in this section. Each alternative has a schedule of resource outputs and a table of economic data projected for 15 decades (Table II-33).

#### Summary of Changes Since The Draft EIS

As a result of public comment and additional analysis, several changes have been made to the alternatives. These are summarized below. Also, corrections to text, tables, and figures have been incorporated.

- The minerals section was rewritten to include information on oil and gas leases and lands withdrawn from mineral entry;

- A discussion of the "below-cost" sales situation on the Forest has been incorporated into the discussion of alternatives;
- The discussion of silvicultural systems has been expanded to clarify why even-aged management will be the predominant silvicultural system used on the Forest. Situations when uneven-aged management may be used to achieve resource objectives are also described. A discussion has been added to clarify the specific situations and conditions where clearcutting is considered to be the optimal system.
- A discussion of the "Report on Idaho's Timber Supply" study and additional supply and demand analysis using information from this study have been included;
- A discussion on the importance of the recreation and tourism industry to the regional economy is included.
- Economic impacts on outfitting and guiding, other recreation sectors, and the timber industry have been included in the discussion of each alternative.
- The analysis of costs and benefits, and net public benefits of and between alternatives has been expanded. The results of these analyses are discussed in detail.
- The Mallard and Gospel-Hump (Jersey-Jack) roadless area boundaries were changed back to the original RARE II boundaries. This change was made in response to a public comment concerned that the Forest adjusted the RARE II boundaries because of timber sale and road building activities that the Forest expected to have taken place but never did. The acreage for Mallard increased from 17,232 acres to 23,232 acres, and the acreage for the Gospel-Hump roadless area increased from 28,907 acres to 54,321 acres.

Changes to Alternative G (the Preferred Alternative):

- Fish/water quality objectives have been increased in 64 drainages; anadromous fish potential will be managed at 87 percent of habitat potential Forestwide. This was done to make Alternative G consistent with the Idaho Department of Fish and Game's "Anadromous Fisheries Management Plan, 1985-1990".
- Prescribed burning of deer/elk winter range was increased from 2,700 acres to 5,000 acres per year during the Plan period (1988-1997).
- Road construction and timber harvesting activities are not scheduled in the West Meadow Creek roadless area during the Plan period (1988-1997), except for the portion which is to the west of the hydrologic divide between Meadow Creek and the Red River and American River drainages.

- Approximately 13,300 acres of the Silver Creek-Pilot Knob roadless area will be managed without roads for high quality fisheries, water quality, wildlife, dispersed recreation, and protection of Native American religious and cultural values.
- The Rackliff-Gedney roadless area will be managed with road improvements and additions. Approximately 11,000 acres will be available for timber management. The remaining 38,000 acres of tentatively suitable lands will be managed to meet wildlife objectives using prescribed burning.
- The allowable sale quantity (ASQ) of timber was increased from 102 MMBF to 108 MMBF per year in the Plan period (1988-1997). One MMBF is the result of an increase in suitable acres, the other 5-MMBF increase is a non-interchangeable component linked specifically to timber that does not meet minimum saw timber utilization standards. Included in this non-interchangeable component is live and dead material that can be utilized for pulp, lumber, and other merchantable products. This is a 6-percent increase from the Draft Preferred Alternative ASQ.
- In the Draft Preferred Alternative, some riparian acres were included in the suitable timber base and some acres were assigned minimum level management. For consistency, all riparian acres are included in the suitable base. A site-specific analysis of the suitability of each area for timber management will be made during implementation following the objectives and management standards in the Forest Plan.
- Visual Quality Objectives along trails in the John's Creek area have been increased.

\* Alternatives Considered But Eliminated from Detailed Study

Alternative B was developed to analyze the effects of managing the Forest at the minimum level required to maintain it in public ownership. No scheduled timber or range outputs would be produced, and no roads would be built.

Since no land-disturbing activities would be scheduled, big-game summer habitat would remain at 100 percent of present capacity, and fish habitat potential would recover to 90 percent of potential capacity within 50 years. No additional habitat potential would be achieved due to the existing road network and associated background sediment. Maximum protection would be afforded threatened and endangered species.

Although fish and wildlife outputs are the highest possible under this alternative, PNV is 71 percent below the maximum PNV benchmark, and jobs would decrease as much as 70 percent below the 1980 level in the regional area.

Since Alternative B does not respond to a wide range of public issues and concerns, it was dropped from further consideration.

### 1. Alternative A (Current Direction)

The goal of this alternative is to continue management direction as set out in plans formulated and approved prior to passage of the National Forest Management Act, and included in existing policies, standards, and guidelines. This is the "no action" alternative required by NEPA. The Forest budget was constrained at the base year (1980) level of \$10.1 million annually for the entire planning horizon.

#### a. Roadless Area

Of the 503,162 acres in the roadless inventory, none are recommended for wilderness; however, Rackliff-Gedney and Rapid River (Nez Perce portions) will continue to be managed without additional roads. Approximately 399,700 acres, or 79 percent of the roadless inventory, will remain undeveloped at the end of the first decade. Under this alternative, 60,699 acres of tentatively suitable land in the roadless inventory will be unavailable for timber production; however, 359,638 acres, 86 percent, will be available.

#### b. Recreation and Trails

Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for 3 decades. After 2010, additional sites will be developed and existing sites expanded to meet demand. Dispersed recreation opportunities and settings shift from semiprimitive to roaded natural as transportation systems for timber harvest are developed in previously roadless areas. Two areas are maintained in roadless status. As the Forest road system expands, more trails are modified to provide needed access.

#### c. Wilderness

No new wilderness is recommended. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

#### d. Visual Quality

Visual quality objectives (VQO) outside of existing wilderness are partial retention on 1 percent of the area, and modification and maximum modification on 68 percent of the area. The remaining 31 percent is either not suitable for timber production or will be managed for retention VQOs. VQOs are based on existing plans.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of potential capacity. The other 20 percent of potential available capacity is assigned to livestock grazing. Potential carrying capacity during the first 5 decades is projected to provide for a low of 6,000 elk per year in decade 5 to a high of 8,900 elk per year in decade 3. Winter range in wilderness is managed at about 90 percent potential capacity in Gospel-Hump and nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return. Potential capacity is projected to increase from 8,300 per year in decade 1 to 10,800 per year in decade 3 and succeeding decades. Prescribed burning on nonwilderness winter range is planned on about 550 acres per year throughout the planning horizon. Prescribed burning is typically planned on grasslands and existing shrub fields. Timber harvest which is scheduled on about 900 acres of winter range per year during the second decade will create openings and provide winter forage for elk. Less than 100 acres per year is projected to be harvested during the remainder of the first 5 decades. The greatest harvest is projected to be about 2,800 acres per year during decade 11. As more acres are harvested, more potential elk habitat is created.

Summer Habitat: Nonwilderness summer range is managed at about 63 percent of available habitat capacity. Potential carrying capacity is projected to provide from 18,700 elk per year to 19,200 elk per year in decades 1 through 3. Wilderness summer range is managed at nearly 100 percent habitat capacity. Potential capacity provides for about 12,700 elk per year and is projected to remain constant throughout the planning horizon (150 years). In all alternatives, livestock grazing is assumed to remain at current levels on elk winter range. Increases in livestock grazing will occur on summer range where livestock transitory range is created by timber harvest.

Total cover on summer range is adequate; however, maintenance of proper distribution of elk hiding cover on suitable timberland becomes increasingly difficult as more areas are developed.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Fifty-two percent of the forested acres is projected to be in the 160-year-old or older age class by decade 15. About 5 percent old growth occurs in wilderness. This percentage is expected to remain constant throughout the planning horizon.

(3) Moose Winter Range

No Pacific yew communities that meet the criteria for moose winter range will be managed for moose winter range. This is expected to result in a significant decline over time in moose winter habitat.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres located along the Salmon River and South Fork of the Clearwater River are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 79 percent of these lands will remain unroaded at the end of the first decade, and 17 percent is projected to remain unroaded at the end of the fifth decade.

f. Fishery/Water Quality

The fishery objective for this alternative is to maintain minimum harvestable levels for both anadromous and resident fish. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). By the third decade, anadromous fish habitat potential is projected to decrease to 78 percent and resident fish habitat potential is projected to decrease to 84 percent. This alternative exceeds the minimum harvestable levels for the Forest (70 percent). Full habitat potential for both groups of fish is achieved in wilderness and other special interest areas of the Forest.

g. Range

Potential forage production is projected to increase from a current permitted level of 43,000 animal unit months (AUMs) to about 51,000 in decade 5 (19 percent increase). Thereafter, range outputs are projected to remain relatively stable. Since permanent range is now fully utilized, potential increases are attributed to transitory range created by timber harvest. Transitory forage supply is projected to exceed expected demand in all mid to late decades.

h. Timber

The objective is to maintain timber production at a level consistent with current land management direction, with objectives for nonmarket opportunities as directed by current plans and minimum management requirements (MMRs). Approximately 61 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 84 MMBF per year is less than the 1974-1983 program sale quantity of 102 MMBF per year. Outputs are projected to increase to the long-term sustained yield capacity of 143 MMBF per year by the second decade. The average acres cut per year for the first decade are 3,697 of regeneration harvests (first entry shelterwood and

clearcut) and 72 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 3,769 for the first decade.

1. Minerals

Of all lands classified as high or very high mineral potential, approximately 21 percent will remain withdrawn from mineral entry and another 2 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 77 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site-specific environmental assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road System

Approximately 2,340 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development costs. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades one and two. These systems would provide initial access to or within a drainage.

Approximately 710 miles of road will be constructed in decade 1; 360 miles will be capital investment. In decade 2, 510 miles are projected to be constructed, 170 miles of which are capital investment. Road construction is projected to decline to a constant level of 70 miles total in decade 9. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The present net value (PNV) of Alternative A is \$806 million, and represents a 28-percent decrease in PNV (\$313 million) from the Maximum PNV benchmark. The major reasons for this reduction are an increase in fishery habitat requirements from minimum viable to minimum harvestable levels, a continuation of existing management direction (\$193 million), and a constraint on appropriated budget levels not to exceed the base year level of \$10.1 million annually. Annual Forest expenditures in the first decade are \$13.3 million or 1 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$10.7 million, 62 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$22.1 million.

Alternative A has the capability to decrease forest-related private sector jobs in the regional area by 9 percent below the 1980 level in the first decade because of the decrease in timber harvest and Forest Service expenditures.

## 2. Alternative C

The goal of this alternative is to emphasize nonmarket opportunities. Water, fish (wild gene pools), wildlife, recreation, and other amenities are highlighted. Other resources would be managed at economically and environmentally feasible levels.

### a. Roadless Area

Of the 503,162 acres in the roadless inventory, none are recommended for wilderness. Six roadless areas will remain roadless to achieve fish, wildlife, and dispersed recreation objectives. They are Rackliff/Gedney (Nez Perce portion), East Meadow Creek, West Meadow Creek, Rapid River (Nez Perce portion), Silver Creek-Pilot Knob, and part of Gospel-Hump (Jersey-Jack). They contain a total of 330,419 acres, with 270,941 acres of land tentatively suitable for timber production. Of the 172,743 acres remaining in the roadless inventory, 149,396 acres of tentatively suitable lands will be available for timber production. Approximately 450,000 acres, or 89 percent of the roadless inventory, will remain undeveloped at the end of the first decade.

### b. Recreation and Trails

Semiprimitive recreation is enhanced in this alternative by excluding road construction in six roadless areas. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand. Dispersed recreation opportunities and setting shift from semiprimitive to roaded natural as transportation systems for timber harvest are developed in previously roadless areas. As the Forest road system expands, more trails are modified to provide needed access.

### c. Wilderness

No new wilderness is recommended. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

### d. Visual Quality

Visual quality objectives outside of existing wilderness are retention on 1 percent of the area, partial retention on 9 percent, and modification and maximum modification on 60 percent. The remaining 30 percent is not suitable for timber production. Visual quality objectives of partial retention and

retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of potential capacity. Potential carrying capacity during the first 5 decades provides for a low of 7,200 elk per year in decade 1 to a projected high of 11,800 elk per year in decade 3. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump and nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return. Potential capacity provides for increases in elk from 8,300 per year in decade 1 to a projected 10,800 per year in decade 3 and succeeding decades. Prescribed burning on nonwilderness lands is planned on about 2,700 to 3,200 acres per year throughout the planning horizon. Approximately 50 to 1,270 acres per year are scheduled for timber harvest on deer/elk winter range during the first five decades. The greatest harvest is projected to be about 1,500 acres per year during decade 16.

Summer Habitat: Nonwilderness summer range is managed at about 58 percent of the potential habitat capacity. The 42 percent decline in potential capacity is due partially to livestock, but more significantly to open roads necessary to conduct timber management activities. Potential carrying capacity remains constant and provides for about 16,900 elk per year. Nonwilderness summer range will be managed using the "North Idaho Elk Coordinating Guidelines" (Leege, 1984), to achieve the following habitat potential: 100 percent in roadless areas, 75 percent in high elk objective areas (142,700 acres), 50 percent in moderate elk objective areas (610,600 acres), and 25 percent in low elk objective areas (179,200 acres). Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity provides for about 12,700 elk per year and remains constant throughout the planning horizon. (This wilderness summer range value is constant in Alternatives A, C, D, E, F and G.)

Total cover and proper distribution of elk hiding cover on suitable timber land should be adequately maintained, because no more than 30 percent will be in non-hiding cover at a time. Security areas will be maintained in roadless areas and other areas with high elk management objectives, i.e., 75 percent or greater.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Thirty-six percent of the forested acreage is projected to be in the 160-year-old or older age class by decade 15. About 5 percent old growth occurs in wilderness. This percentage is assumed to remain constant throughout the planning horizon.

(3) Moose Winter Range

All Pacific yew communities that meet the criteria for moose winter range will be managed for moose winter range. This is expected to provide the habitat necessary to maintain or increase winter moose populations.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 91 percent of these lands will remain unroaded at the end of the first decade, and 85 percent is projected to remain unroaded at the end of the fifth decade.

f. Fishery/Water Quality

Specific fishery objectives for this alternative are developed on a drainage by drainage basis. The lowest objective is to manage fish habitat at the 70 percent level to maintain a minimum harvest. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). Objectives range from 70 to 100 percent depending on such factors as present condition of the habitat, importance of the fishery, and presence of anadromous species. All objectives were set through coordination with Idaho Department of Fish and Game. Anadromous fish habitat potential is projected to be reduced to 84 percent and resident trout habitat potential is projected to decrease to 81 percent by the third decade. Full habitat potential is realized for all wilderness on the Forest.

g. Range

Range outputs are maintained at 42,000 AUMs. The 1980 level of transitory forage created by timber harvest is allocated to elk.

h. Timber

The objective is to maintain timber production consistent with high emphasis on nonmarket values. Approximately 78 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 74 MMBF per year is less than the 1974-1983 program sale

quantity of 102 MMBF per year. Outputs are projected to increase to the long-term sustained yield capacity of 197 MMBF per year by the third decade.

The average acres cut per year for the first decade are 3,251 of regeneration harvests (first entry shelterwood and clearcut) and 981 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 4,232 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 21 percent will remain withdrawn from mineral entry and another 31 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 48 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site-specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road System

Approximately 4,000 miles of new road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development costs. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Approximately 650 miles of road will be constructed in decade 1; 340 miles will be capital investment. In decade 2, 810 miles are projected to be constructed, 310 miles of which are capital investment. Road construction is projected to decline to a constant level of 100 miles total in decade 8. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative C is \$944 million, and represents a 16-percent decrease in PNV (\$175 million) from the maximum PNV benchmark. The major reasons for this reduction are a decrease in suitable lands due to fishery, recreation, and wildlife resource use (\$157 million), and an increase in fishery habitat requirements from minimum viable to levels which exceed minimum harvestable (\$18 million). Annual Forest expenditures in the first decade are \$13.2 million or 1 percent above the present level. The annual returns to the U.S. Treasury in the

first decade are \$8.5 million, 29 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$20.0 million.

Alternative C has the capability to decrease forest-related private sector jobs in the regional area by 14 percent below the 1980 level in the first decade because of the decrease in timber harvest and Forest Service expenditures.

### 3. Alternative D

The goal of this alternative is to emphasize market opportunities for outputs that have an established market price. Other resources would be managed at economically and environmentally feasible levels.

#### a. Roadless Areas

Of the 503,162 acres in the roadless inventory, all except 82,825 acres of unsuitable timberlands will be assigned to roaded development. In addition, the Clearwater National Forest portion of Rackliff-Gedney roadless area, 34,710 acres, will be available for roaded development. Approximately 382,300 acres, or 80 percent of the roadless inventory on the Nez Perce, will remain undeveloped at the end of the first decade.

#### b. Recreation and Trails

Opportunities for recreation in roaded natural settings are highest in this alternative and Alternative E. No areas are maintained in roadless status. Dispersed recreation opportunities and settings shift from semiprimitive to roaded natural as transportation systems for timber harvest are developed in previously roadless areas. As the Forest road system expands, more trails are modified to provide needed access. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand.

#### c. Wilderness

No new wilderness is recommended. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

#### d. Visual Quality

Visual quality objectives outside of existing wilderness are modification and maximum modification on 88 percent of the area. The remaining 12 percent of the area is not suitable for timber production. Visual quality objectives of

partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of potential capacity. Potential carrying capacity during the first 5 decades is projected to provide for a low of 6,600 elk per year in decade 4 and a high of 7,600 elk per year in decades 3 and 5. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump and nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return. Potential capacity provides for projected increases in elk from 8,300 per year in decade 1 to 10,800 per year in decade 3 and succeeding decades. No prescribed burning occurs on winter range. Up to 1,400 acres per year are scheduled for timber harvest on deer/elk winter range during the first five decades. The greatest harvest is projected to be about 3,500 acres per year during decade 9.

Summer Habitat: Nonwilderness summer range is managed at 48 to 50 percent habitat potential during the planning horizon. The 50 to 52 percent decline is due partially to livestock grazing, but primarily to open roads necessary to conduct timber management activities. Potential carrying capacity provides from about 14,200 elk per year to 14,700 elk per year. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity provides for about 12,700 elk per year and remains constant throughout the planning horizon.

Total cover should remain adequate, however, proper distribution of elk hiding cover on suitable timber land will become increasingly difficult to maintain as areas are developed. This alternative does not provide for maintaining adequate security areas adjacent to ongoing timber management activities.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Sixteen percent of the forested acres are projected to be in the 160-year-old or older age class by decade 15. About 5 percent old growth occurs in wilderness. This percentage is assumed to remain constant throughout the planning horizon.

(3) Moose Winter Range

No Pacific yew communities will be managed for moose winter range. This is expected to result in a significant decline over time in moose winter habitat.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 76 percent of these lands will remain unroaded at the end of the first decade. None of these lands are projected to remain unroaded by the end of the fifth decade.

f. Fishery/Water Quality

The fishery objective for this alternative is to maintain a minimum harvestable level for all fish on suitable lands. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). By limiting sediment yields to meet this objective, anadromous fish habitat potential is projected to decrease to 72 percent and resident trout habitat potential is projected to decrease to 78 percent of potential by the third decade. The maximum allowable decrease in habitat potential to meet the minimum harvestable objective is 30 percent below full potential (100 percent), to 70 percent.

g. Range

Range outputs are projected to rapidly increase from the existing 42,000 AUMs to 55,000 AUMs by the sixth decade and thereafter remain relatively stable. This represents an increase of 31 percent over current grazing levels. This is the highest of any alternative and is attributed to a large timber harvest which provides a large amount of transitory range. The close coordination needed between livestock grazing, timber harvest, and tree regeneration would increase administrative costs.

h. Timber

The objective is to produce high timber outputs. Approximately 97 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 157 MMBF per year is 54 percent above the 1974-1983 program sale quantity. Outputs are projected to increase to the long-term sustained yield capacity of 242 MMBF per year by the third decade.

The average acres cut per year for the first decade are 6,181 of regeneration harvests (first entry shelterwood and clearcut) and 630 of intermediate harvests

(commercial thinning and area salvage). Total acres cut per year are 6,811 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 21 percent will remain withdrawn from mineral entry and another 3 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 76 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road System

Approximately 5,780 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development costs. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Approximately 1,150 miles of road will be constructed in decade 1, 490 miles will be capital investment. In decade 2, 980 miles are projected to be constructed, 340 miles are capital investment. Road construction is projected to decline to a constant level of 120 miles in decade 10. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative D is \$1,113 million, and represents a 1-percent decrease in PNV (\$6 million) from the maximum PNV benchmark. The major reason for this reduction is an increase in fishery habitat requirements from minimum viable to minimum harvestable levels. This alternative has the highest PNV of any alternative, and also has the highest costs of management. Annual Forest expenditures in the first decade are \$18.9 million or 44 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$18.0 million, 173 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$29.1 million.

Alternative D has the capability to increase forest-related private sector jobs in the regional area by 39 percent above the 1980 level in the first decade because of the increase in timber harvest and Forest Service expenditures.

#### 4. Alternative E

The goal of this alternative is to determine how the Forest's Resource Planning Act (RPA) assignments, as set out in the Regional Guide, can best be met. This is required by 36 CFR 219.12.

##### a. Roadless Area

Of the 503,162 acres in the roadless inventory, all 420,337 acres tentatively suitable for timber production will be utilized to reach RPA timber targets. No wilderness or continued roadless status is recommended in this alternative; however, 347,900 acres, or 69 percent of the roadless inventory, will remain unroaded at the end of the first decade.

##### b. Recreation and Trails

Opportunities for recreation in roaded natural settings are highest in this alternative and Alternative D. No areas are maintained in roadless status for semiprimitive recreation. Dispersed recreation opportunities and settings shift from semiprimitive to roaded natural as transportation systems for timber harvest are developed in previously roadless areas. As the Forest road system expands, more trails are modified to better meet public needs. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand.

##### c. Wilderness

No new wilderness is recommended. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

##### d. Visual Quality

Visual quality objectives outside of existing wilderness are retention on 1 percent of the area, partial retention on 10 percent, and modification and maximum modification on 70 percent. The remaining 19 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of potential capacity. Potential carrying capacity during the first 5 decades provides for a low of 8,200 elk per year in decade 1 and a projected high of 17,400 elk per year in decade 3. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump and nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return. Potential capacity provides for increases in elk from 8,300 per year in decade 1 to a projected 10,800 per year in decade 3 and succeeding decades. Prescribed burning on nonwilderness lands occurs on about 2,500 to 2,870 acres per year throughout the planning horizon. Approximately 200 to 1,300 acres per year are scheduled for timber harvest on deer/elk winter range during the first five decades. The greatest harvest is projected to be about 1,750 acres per year during decade 10.

Summer Habitat: Nonwilderness summer habitat is managed at about 51 percent of habitat potential during the first five decades. Potential carrying capacity provides for about 15,100 elk per year during these five decades. Wilderness summer habitat is managed at nearly 100 percent habitat potential. Potential capacity provides for about 12,700 elk per year and remains constant throughout the planning horizon.

Total cover should remain adequate. However, proper distribution of elk hiding cover on suitable timber land will become increasingly difficult to maintain as areas are developed. This alternative does not provide for maintaining adequate security areas adjacent to on-going timber management activities.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds are managed for old-growth-dependent species. Twenty-six percent of the forested acres is projected to be in the 160-year-old or older age class by decade 15. About 5 percent old growth occurs in wilderness. This percentage is assumed to remain constant throughout the planning horizon.

(3) Moose Winter Range

No Pacific yew communities will be managed for moose winter range. This is expected to result in a significant decline over time in moose winter habitat.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest

potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 70 percent of these lands will remain unroaded at the end of the first decade. None of these lands are projected to remain unroaded by the end of the fifth decade.

f. Fishery/Water Quality

The fishery objectives for this alternative are developed from the RPA program document, 1980. The Region One selected alternative from this program is to manage anadromous fish at a 4 percent increase over the existing habitat potential (90 percent level) and to manage resident fish at the 80 percent level of habitat potential. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). These objectives will be met only in the first decade. Sediment yields are in excess of those necessary to achieve these high objectives in decades two and three. Anadromous fish habitat potential is projected to decrease to 81 percent and resident fish habitat potential is projected to decrease to 77 percent by the third decade.

g. Range

Range outputs are slightly below the current grazing level in all decades. They are projected to remain fairly constant throughout the planning horizon (40 to 41 AMUs)

h. Timber

The objective is to maintain timber production at levels consistent with regionally assigned RPA targets.

Approximately 91 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 127 MMBF per year is 25 percent above the 1974-1983 program sale quantity. Outputs are projected to increase to the long-term sustained yield capacity of 228 MMBF per year by decade 4. RPA targets are met in all decades.

The average acres cut per year for the first decade are 3,431 of regeneration harvests (first entry shelterwood and clearcut) and 5,036 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 8,467 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 21 percent will remain withdrawn from mineral entry and another 22 percent will be open to mineral entry but subject to special conditions or stipulations to

protect specific resource values. This will leave 57 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site-specific environmental assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road Systems

Approximately 5,180 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development costs. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Approximately 970 miles of road will be constructed in decade 1, 430 miles will be capital investment. In decade 2, 780 miles are projected to be constructed, 300 miles are capital investment. Road construction is projected to decline to a constant level of 110 miles total in decade 9. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative E is \$923 million, and represents an 18-percent decrease in PNV (\$196 million) from the maximum PNV benchmark. The major reason for this reduction is the objective of meeting the targets assigned by the Regional Guide. Annual Forest expenditures in the first decade are \$17.7 million or 35 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$12.7 million, 92 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$23.5 million.

Alternative E has the capability to increase forest-related private sector jobs in the regional area by 21 percent above the 1980 level in the first decade because of the increase in timber harvest and Forest Service expenditures.

## 5. Alternative F

The goal of this alternative is to emphasize fish and wildlife resources with a specified minimum level of timber production. Timber harvest would be at least 75 MMBF per year, and specified areas would be excluded from new road construction. Management of key big-game range would be emphasized.

### a. Roadless Area

None of the acreage in the roadless area inventory is recommended for wilderness. Five roadless areas are assigned continued roadless status to achieve fish, wildlife, and dispersed recreation objectives. They are Gospel-Hump (Jersey-Jack), Mallard, Rapid River (Nez Perce portion), Rackliff-Gedney (Nez Perce portion), and East Meadow Creek. They total 250,519 acres, with 206,184 acres tentatively suitable for timber production. Of the 252,643 acres remaining in the roadless inventory, 214,153 acres, or 51 percent, will be available for timber production. Approximately 441,400 acres, or 88 percent of the roadless inventory, will remain undeveloped at the end of the first decade.

### b. Recreation and Trails

Semiprimitive recreation is enhanced in this alternative by excluding road construction in five roadless areas. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand. Dispersed recreation opportunities and settings shift from semiprimitive to roaded natural as transportation systems for timber harvest are developed in previously roadless areas. As the Forest road system expands, more trails are modified to better meet public needs.

### c. Wilderness

No new wilderness is recommended. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

### d. Visual Quality

Visual quality objectives outside of existing wilderness are partial retention on 10 percent of the area, and modification and maximum modification on 64 percent. The remaining 26 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of capacity. The other 20 percent is assigned to livestock grazing. Potential carrying capacity during the first 5 decades provides for a low of 8,700 elk per year in decade 1 to a projected high of 15,400 per year in decade 3. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump and nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return. Potential capacity provides for increases in elk from 8,300 per year in decade 1 to a projected 10,800 per year in decade 3 and succeeding decades. Prescribed burning on nonwilderness lands is planned on about 2,700 to 3,200 acres per year throughout the planning horizon. Approximately 80 to 2,220 acres per year are scheduled for timber harvest on deer/elk winter range during the first five decades. The greatest harvest (2,220 acres per year) occurs in the first decade.

Summer Habitat: Nonwilderness summer range is managed at about 55 percent of potential habitat capacity. Nonwilderness summer range will be managed using the "North Idaho Elk Coordinating Guidelines" (Leege, 1984), to achieve the following habitat potential: 100 percent in roadless areas, 75 percent in high elk objective areas (142,700 acres), 50 percent in moderate elk objective areas (610,600 acres), and 25 percent in low elk objective areas (179,200 acres). Potential carrying capacity provides for about 16,300 elk per year. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity provides for about 12,700 elk per year and remains constant throughout the planning horizon.

Total cover and proper distribution of elk hiding cover on suitable timber land would be adequately maintained because no more than 30 percent of the land will be in a nonhiding cover at a time. Security areas will be maintained in roadless areas and other areas with high elk management objectives.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Twenty-seven percent of the forested acres is projected to be in the 160-year-old or greater age class by decade 15. About 5 percent old growth occurs in wilderness. This percentage is assumed to remain constant throughout the planning horizon.

(3) Moose Winter Range

About 54 percent of existing Pacific yew communities that meet the criteria for moose winter range will be managed for moose winter range and timber production. About 46 percent will be managed for moose winter range as a component of the unregulated timber base. This may result in a slight decline in moose winter habitat.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 91 percent of these lands will remain unroaded at the end of the first decade, and 68 percent is projected to remain unroaded at the end of the fifth decade.

f. Fishery/Water Quality

The fishery objective for this alternative is to maintain a minimum harvestable level on all suitable lands. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). By limiting sediment yields to meet this objective, anadromous fish habitat potential is projected to decrease to 76 percent and resident fish habitat potential is projected to decrease to 77 percent by the third decade. Full habitat potential is achieved for all species of fish in wilderness and other special interest areas of the Forest.

g. Range

Grazing levels are projected to gradually increase from the first decade level of 42,000 AUMs to 46,000 AUMs in the fourth decade and remain stable thereafter. This represents a 10-percent increase over current grazing levels.

h. Timber

The objective is to provide at least a 75 MMBF annual allowable sale quantity because that is consistent with a high emphasis on nonmarket values.

Approximately 84 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 116 MMBF per year is 12 percent above the 1974-1983 program sale quantity of 102 MMBF per year. Outputs are projected to increase to the long-term sustained yield capacity of 206 MMBF per year by the second decade.

The average acres cut per year for the first decade are 4,405 of regeneration harvests (first entry shelterwood and clearcut) and 69 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 4,474 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 21 percent will remain withdrawn from mineral entry and another 35 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 44 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site-specific environmental assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road System

Approximately 4,310 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development cost. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Approximately 930 miles of road will be constructed in decade 1, 430 miles will be capital investment. In decade 2, 910 miles are projected to be constructed, 340 miles are capital investment. Road construction is projected to decline to a constant level of 100 miles total in decade 8. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative F is \$1,005 million, and represents a 10-percent decrease in PNV (\$110 million) from the maximum PNV benchmark. The major reasons for this reduction are suitable lands assigned to fishery, recreation, and wildlife use (\$104 million), and an increase in fishery habitat requirements from minimum viable to minimum harvestable levels (\$6 million). Annual Forest expenditures in the first decade are \$16.9 million or 29 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$13.3 million, 101 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$25.2 million.

Alternative F has the capability to increase forest-related private sector jobs in the regional area by 16 percent above the 1980 level in the first decade because of the increase in timber harvest and Forest Service expenditures.

## 6. Alternative G - Preferred Alternative

The goal of this alternative is to emphasize fish and wildlife resources through specific drainage objectives, and to provide a high level of market outputs. Timber harvests are constrained to insure community stability.

### Summary of Changes Since The Draft EIS

- Fish/water quality objectives have been increased in 64 drainages; anadromous fish potential will be managed at 87 percent of habitat potential Forestwide. This was done to make Alternative G consistent with the Idaho Department of Fish and Game's "Anadromous Fisheries Management Plan, 1985-1990".
- Prescribed burning of deer/elk winter range was increased from 2,700 acres to 5,000 acres per year during the Plan period (1988-1997).
- Road construction and timber harvesting activities are not scheduled in the West Meadow Creek roadless area during the Plan period (1988-1997), except for the portion which is to the west of the hydrologic divide between Meadow Creek and the Red River and American River drainages.
- Approximately 13,300 acres of the Silver Creek-Pilot Knob roadless area will be managed without roads for high quality fisheries, water quality, wildlife, dispersed recreation, and protection of Native American religious and cultural values.
- The Rackliff-Gedney roadless area will be managed with road improvements and additions. Approximately 11,000 acres will be available for timber management. The remaining 38,000 acres of tentatively suitable lands will be managed to meet wildlife objectives using prescribed burning.
- The allowable sale quantity (ASQ) of timber was increased from 102 MMBF to 108 MMBF per year in the Plan period (1988-1997). One MMBF is the result of an increase in suitable acres, the other 5-MMBF increase is a non-inter-suitable component linked specifically to timber that does not meet minimum saw timber utilization standards. Included in this non-inter-changeable component is live and dead material that can be utilized for pulp, lumber, and other merchantable products. This is a 6-percent increase from the Draft Preferred Alternative ASQ.
- In the Draft Preferred Alternative, some riparian acres were included in the suitable timber base and some acres were assigned minimum level management. For consistency, all riparian acres are included in the suitable base. A site-specific analysis of the suitability of each area for timber management will be made during implementation following the objectives and management standards in the Forest Plan.
- Visual Quality Objectives along trails in the John's Creek area have been increased.

a. Roadless Area

Of the 503,162 acres in the roadless inventory, none are recommended for wilderness. The Clearwater National Forest portion of the Rackliff-Gedney roadless area is also not recommended for wilderness classification. One roadless area and parts of two others, a total of 126,846 acres, are assigned continued roadless management to meet high quality fish, wildlife, and water quality objectives and protection of Native American religious values. They are Rapid River (Nez Perce portion), Silver Creek-Pilot Knob, and East Meadow Creek. The Rapid River roadless area is reduced in size from 23,300 net acres to 19,343 net acres in this alternative to allow for roaded management activity in that part of the area not subject to water quality standards in PL 94-199, which are discussed in detail in Appendix C. Approximately 13,300 of the 21,034 acres in the Silver Creek-Pilot Knob roadless area will be managed without additional roads in order to protect the area's Native American religious values. Of the tentatively suitable lands remaining in the roadless inventory, 302,036 acres or 72 percent, will be available for timber production. Approximately 457,000 acres, or 91 percent of the roadless inventory, will remain undeveloped at the end of the first decade.

b. Recreation and Trails

Semiprimitive recreation is enhanced in this alternative by excluding road construction in three roadless areas. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand. Dispersed recreation opportunities and settings shift from semiprimitive to roaded natural as transportation systems for timber harvest are developed in previously roadless areas. As the Forest road system expands, more trails are modified to provide access to the public.

c. Wilderness

No new wilderness is recommended. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

d. Visual Quality

Visual quality objectives outside of existing wilderness are retention on 1 percent of the area, partial retention on 10 percent, and modification and maximum modification on 67 percent. The remaining 22 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of capacity. Potential carrying capacity during the first 5 decades provides for a low of 12,100 elk per year in decade 1 to a projected high of 16,300 elk per year in decade 3. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump and nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return. Potential carrying capacity provides for increases in elk from 8,300 per year in decade 1 to a projected 10,850 per year in decade 3 and succeeding decades. Prescribed burning on nonwilderness lands is planned on about 5,000 acres per year throughout the planning horizon. Up to 1,250 acres per year are scheduled for timber harvest on deer/elk winter range during the first five decades. The greatest harvest is projected to occur in decade 8, about 1,940 acres per year.

Summer Habitat: Nonwilderness summer range is managed at about 53 percent of habitat potential. It will be managed using the "North Idaho Elk Coordinating Guidelines" (Leege, 1984), to achieve the following habitat potential: 100 percent in roadless areas, 75 percent in high elk objective areas (142,700 acres), 50 percent in moderate elk objective areas (610,600 acres), and 25 percent in low elk objective areas (179,200 acres). The 47 percent decline is due partially to livestock grazing, but primarily to open roads necessary for timber management activities. Potential carrying capacity varies from providing for 19,700 elk per year in decade 1 to a projected 19,400 elk per year in decade 3, remaining constant thereafter. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity provides for about 12,700 elk per year and remains constant throughout the planning horizon.

Total cover and proper distribution of elk hiding cover on suitable timber land should be adequately maintained, because no more than 30 percent will be in nonhiding cover at a time. Security areas will be maintained in roadless areas and other areas with high elk management objectives.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Thirty-five percent of the forested acres is projected to be in the 160-year-old age class by decade 15. About 5 percent old growth occurs in wilderness. This percentage is assumed to remain constant throughout the planning horizon.

(3) Moose Winter Range

About 54 percent of existing Pacific yew communities that meet the criteria for moose winter range will be managed for moose winter range and timber production. About 46 percent will be managed for moose winter range as a component of the unsuitable landbase. This maintains moose winter habitat.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 95 percent of these lands will remain unroaded at the end of the first decade, and 43 percent is projected to remain unroaded at the end of the fifth decade.

f. Fishery/Water Quality

The fishery objectives for this alternative are established on a drainage by drainage basis. Criteria for setting objectives for this alternative are similar to those used in Alternative C, but with less emphasis on those drainages with only resident fish potential. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). The maximum allowable reduction for resident fish habitat potential is 16 percent below the existing condition of 86 percent. These criteria are established to maintain at least a minimum harvestable level for resident fish. By limiting sediment yields to meet these objectives, anadromous fish habitat potential is projected to increase to 87 percent and resident fish habitat potential is projected to decrease to 81 percent by the fifth decade. Full habitat capacity is achieved in wilderness and other special interest areas of the Forest.

g. Range

Range outputs are projected to rise gradually from the current 42,000 AUMs to about 48,000 AUMs in decade 5, representing a 15 percent increase. Thereafter, grazing outputs are projected to remain stable. Increases in livestock grazing on elk summer range limit the opportunities to increase elk populations.

h. Timber

The objective is to maintain the current level of timber production (102 MMBF) for decade 1 while providing moderate levels of nonmarket outputs.

Approximately 83 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 108 MMBF per year is above the 1974-1983 program sale quantity of 102 MMBF per year. Outputs are projected to increase to the long-term sustained yield capacity of 210 MMBF per year by the fifth decade.

The average acres cut per year for the first decade are 4,339 of regeneration harvests (first entry shelterwood and clearcut) and 201 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 4,540 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 21 percent will remain withdrawn from mineral entry and another 32 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 47 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road Systems

Approximately 4,460 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development cost. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Road construction in decade 1 totals 830 miles, with 385 miles being capital investment. In decade 2, road construction is projected to total 710 miles, with 155 miles being capital investment. Road construction is projected to decline to a constant level of 100 miles in decade 9. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative G is \$986 million, and represents a 12-percent decrease in PNV (\$133 million) from the maximum PNV benchmark. The major reasons for this reduction are suitable lands proposed for fishery, recreation, and wildlife use (\$82 million), along with an increase in fishery habitat requirements from minimum viable to levels which exceed minimum harvestable (\$51 million). Annual Forest expenditures in the first decade are \$15.5 million, or 18 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$12.0 million, 82 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$ 24.0 million.

Alternative G has the capability to increase forest-related private sector jobs in the regional area by 8 percent above the 1980 level in the first decade because of the increase in recreational use and Forest Service expenditures.

## 7. Alternative G1

The goal of this alternative is to emphasize fish and wildlife resources through specific drainage objectives, and to provide a high level of market outputs. Timber harvests are constrained to insure community stability. This alternative is essentially the same as Alternative G except for an increase in timber harvest in later decades.

### a. Roadless Area

Of the 503,162 acres in the roadless inventory, none are recommended for wilderness. One roadless area and parts of two others, a total of 126,846 acres, are assigned continued roadless management to meet high quality fish, wildlife, and water quality objectives and protection of Native American religious values. They are Rapid River (Nez Perce portion), Silver Creek-Pilot Knob, and East Meadow Creek. The Rapid River roadless area is reduced in size from 23,300 net acres to 19,343 net acres in this alternative to allow for roaded management activity in that part of the area not subject to water quality standards in PL 94-199, which are discussed in detail in Appendix C. Approximately 13,300 of the 21,034 acres in the Silver Creek-Pilot Knob roadless area will be managed without additional roads in order to preserve the area's Native American religious values. Of the tentatively suitable lands remaining in the roadless inventory, 302,036 acres or 72 percent, will be available for timber production. Approximately 457,000 acres, or 91 percent of the roadless inventory, will remain undeveloped at the end of the first decade.

### b. Recreation and Trails

Semiprimitive recreation is emphasized in this alternative by excluding road construction in three roadless areas. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand. Dispersed recreation opportunities and settings shift from semiprimitive to roaded natural as transportation systems for timber harvest are developed in previously roadless areas. As the Forest road system expands, more trails are modified to provide needed access.

### c. Wilderness

No new wilderness is recommended. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

d. Visual Quality

Visual quality objectives outside of existing wilderness are retention on 1 percent of the area, partial retention on 10 percent, and modification and maximum modification on 67 percent. The remaining 22 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of capacity. Potential carrying capacity during the first 5 decades provides for a low of 12,100 elk per year in decade 1 to a projected high of 15,950 elk per year in decade 3. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump and nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return. Potential capacity provides for increases in elk from 8,300 per year in decade 1 to a projected 10,850 per year in decade 3 and succeeding decades. Prescribed burning on nonwilderness lands is planned on about 5,000 acres per year throughout the planning horizon. Up to 1,350 acres per year are scheduled for timber harvest on deer/elk winter range during the first five decades. The greatest harvest, about 2,600 acres per year, is projected to occur in decade 8.

Summer Habitat: Nonwilderness summer range is managed at about 53 percent of habitat potential. It will be managed using the "North Idaho Elk Coordinating Guidelines" (Leege, 1984), to achieve the following habitat potential: 100 percent in roadless areas, 75 percent in high elk objective areas (142,700 acres), 50 percent in moderate elk objective areas (610,600 acres), and 25 percent in low elk objective areas (179,200 acres). The 47 percent decline is due partially to livestock grazing but primarily to open roads necessary for timber management activities. Potential carrying capacity varies from providing for 19,350 elk per year in decade 1 to a projected 19,100 elk per year in decade 2, remaining constant thereafter. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity provides for about 12,700 elk per year and remains constant throughout the planning horizon.

Total cover and proper distribution of elk hiding cover on suitable timber land should be adequately maintained, because no more than 30 percent of land managed for timber will be in nonhiding cover at a time. Security areas will be maintained in roadless areas and other areas with high elk management objectives.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Twenty-three percent of the forested acres is projected to be in the 160-year-old or older age class by decade 15. About 5 percent old growth occurs in wilderness. This percentage is assumed to remain constant throughout the planning horizon.

(3) Moose Winter Range

About 54 percent of existing Pacific yew communities that meet the criteria for moose winter range will be managed for moose winter range and timber production. About 46 percent will be managed for moose winter range as a component of the unregulated timber base. This maintains moose winter habitat.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 95 percent of these lands will remain unroaded at the end of the first decade, and 43 percent is projected to remain unroaded at the end of the fifth decade.

f. Fishery/Water Quality

The fishery objectives for this alternative are established on a drainage by drainage basis. Criteria for setting objectives for this alternative are similar to those used in Alternative C, but with less emphasis on those drainages with only resident fish potential. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). The maximum allowable reduction for resident fish habitat potential is 16 percent below the existing condition of 86 percent. These criteria are established to maintain at least a minimum harvestable level for resident fish. By limiting sediment yields to meet these objectives, anadromous fish habitat potential is projected to increase to 87 percent and resident fish habitat potential is projected to decrease to 81 percent by the fifth decade. Full habitat capacity is achieved in wilderness and other special interest areas of the Forest.

g. Range

Range outputs are projected to rise gradually from the current 42,000 AUMs to about 49,000 AUMs in decade 6, representing a 17 percent increase. Thereafter, grazing outputs are projected to remain stable. Increases in livestock grazing on elk summer range limit the opportunities to increase elk populations.

h. Timber

The objective of this alternative is to maintain a moderate level of timber output consistent with emphasis on providing high levels of nonmarket outputs. The objective and constraints for this alternative are the same as for Alternative G except that the timber sale schedule is allowed to depart from the principle of nondeclining flow. The sale schedule deviates from the allowable sale quantity of Alternative G in the fifth decade.

Approximately 83 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity is 111 MMBF and is projected to increase to 135, 170, and 215 MMBF annually in decades 2 through 4 respectively. At this point, the average annual harvest is projected to depart from the long-term sustained yield capacity and increases to 363 MMBF annually by the seventh decade. The sale schedule is then projected to gradually decrease to the long-term sustained yield capacity of 210 MMBF by the tenth decade. The harvest level is projected to remain at 210 MMBF for the rest of the planning horizon.

The average acres cut per year for the first decade are 4,554 of regeneration harvests and 98 acres of intermediate harvests. The total acres cut per year for the first decade are 4,652. The number of acres harvested is much higher in decades 6 through 10 in this alternative than in Alternative G.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 21 percent will remain withdrawn from mineral entry and another 28 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 51 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road Systems

Approximately 5,050 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development cost. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Road construction in decade 1 totals 850 miles, 460 miles of which are capital investment. In decade 2, road construction is projected to total 700 miles, 260 miles are capital investment. Road construction is projected to decline to a constant level of 100 miles in decade 9. Some of the roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative G1 is \$1,067 million, and represents a 5-percent decrease (\$52 million) from the maximum PNV benchmark. The major reasons for this reduction are a decrease in suitable lands proposed for fishery, recreation, and wildlife use, along with an increase in fishery habitat requirements to levels which exceed minimum harvestable. Annual Forest expenditures in the first decade are \$16.1 million, 22 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$11.9 million, 80 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total benefits in the first decade are \$23.8 million.

Alternative G1 has the capability to increase forest-related private sector jobs in the regional area by 9 percent above the 1980 level in the first decade because of the increase in recreational use and Forest Service expenditures.

8. Alternative H

The goal of this alternative is to maximize the Forest's wilderness resource. Market outputs from lands outside existing and proposed wilderness would be maximized. All roadless areas in the inventory, 503,162 acres, would be recommended to Congress for wilderness classification. In addition, 34,710 acres of Rackliff-Gedney roadless area on the Clearwater National Forest would be recommended for wilderness.

a. Roadless Area

All 503,162 acres in the roadless inventory will be recommended for wilderness classification under this alternative and all 420,337 acres tentatively suitable for timber production in roadless areas will be unavailable for roaded development.

b. Recreation and Trails

This alternative provides the highest capacity for primitive recreation. No areas are maintained in roadless status. Recreation opportunities and settings change from semiprimitive to primitive in proposed wilderness, and from semiprimitive to roaded natural in unclassified areas as transportation systems are developed. More trails are modified as road access is developed. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand.

c. Wilderness

The entire roadless inventory, 503,162 acres, is recommended for wilderness classification to furnish the Forest's maximum acreage to the National Wilderness Preservation System. These areas will be managed according to wilderness management plans developed for each new wilderness, or amended wilderness plans if roadless areas are added to existing wildernesses. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

d. Visual Quality

Visual quality objectives outside of existing wilderness are preservation on 39 percent of the area (which is the roadless area recommended for wilderness), and modification and maximum modification on 55 percent. The remaining 6 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of capacity. The other 20 percent is assigned to livestock grazing. Potential carrying capacity during the first 5 decades provides for a high of 3,500 elk per year in decade 1 to a projected low of 1,500 per year in decade 5. This decline occurs because of the acreage of winter range recommended for wilderness management. No timber harvest will occur on these lands, and because of the proximity of much of the winter range to developed sites (homes, administrative sites, etc.), fires would not be allowed to burn on these ranges. Therefore, much of the winter range would advance to later stages of succession and capacity would decline. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump, nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return and at nearly 67 percent in roadless areas recommended

for wilderness. Potential capacity provides for increases in elk from 10,400 per year in decade 1 to a projected 12,700 per year in decade 4, remaining nearly constant thereafter. No prescribed burning outside of wilderness is planned. Up to 400 acres per year are scheduled for timber harvest on deer/elk winter range during the first five decades. The greatest harvest is projected to occur on 2,150 acres per year during decade 9.

Summer Habitat: Nonwilderness summer range is managed at 47 percent of potential habitat capacity. Potential carrying capacity decreases from 9,000 elk per year in decade 1 to a projected 8,850 elk per year in decade 3, remaining constant thereafter. Wilderness summer range is managed at nearly 100 percent habitat effectiveness. Potential capacity for all wilderness, including roadless areas recommended for wilderness, is about 22,700 elk per year, and remains constant throughout the planning horizon.

Total cover should remain adequate. However, proper distribution of elk hiding cover on suitable timber land will become increasingly difficult to maintain as areas are developed. This alternative does not provide for maintaining adequate security areas adjacent to ongoing timber management activities.

#### (2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Forty-eight percent of the forested acres, including roadless areas recommended for wilderness, is projected to be in the 160-year-old and older age class by decade 15. About 5 percent old growth occurs in existing wilderness. This percentage is expected to remain constant throughout the planning horizon.

#### (3) Moose Winter Range

About 12 percent of existing Pacific yew communities that meet the criteria for moose winter range are recommended for wilderness. No other Pacific yew communities will be managed for moose winter range. This is expected to result in a significant decline in the moose winter habitat.

#### (4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres located along the Salmon and South Fork Clearwater Rivers are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump.

Because these lands would remain undeveloped, conflicts between managing for conservation of the wolf and grizzly bear and other management activities would not occur.

f. Fishery/Water Quality

The fishery objective for this alternative is to maintain a minimum harvestable level of all fish on all suitable lands. This alternative analyzed the maximum amount of classified lands possible on the forest, which has a positive effect on fish habitat through the elimination of management-derived sediments on these proposed classified lands. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). By limiting sediment yields to meet this objective, anadromous fish habitat potential is projected to decrease to 76 percent and resident fish habitat potential is projected to decrease to 83 percent. All objectives are projected to be met by the third decade following implementation. Full habitat potential is achieved on all wilderness and other special interest areas on the Forest.

g. Range

Grazing levels are projected to rise from the existing 42,000 AUMs to 45,000 in the fourth decade and remain very stable in all other decades.

h. Timber

The objective is to maintain a high level of timber production on a constrained land area. All currently roadless areas would be recommended for wilderness classification.

Approximately 62 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 94 MMBF per year is 10 percent below the 1974-1983 program sale quantity of 102 MMBF per year. Outputs are projected to increase to the long-term sustained yield capacity of 150 MMBF per year by the second decade. The average acres cut per year for the first decade are 3,601 of regeneration harvests (first entry shelterwood and clearcut) and 1,160 acres of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 4,761 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 46 percent will remain withdrawn from mineral entry and another 1 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 53 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site-specific environmental assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road Systems

Approximately 3,010 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development cost. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Road construction in decade 1 totals 760 miles, with 380 miles capital investment. In decade 2, road construction is projected to total 500 miles, 190 miles are capital investment. Road construction is projected to decline to a constant level of 80 miles total in decade 10. Some of the roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative H is \$822 million, and represents a 27-percent decrease in PNV (\$297 million) from the maximum PNV benchmark. The major reasons for this reduction are the suitable lands which are recommended for wilderness in this alternative, and an increase in fishery habitat requirements to minimum harvestable levels. Annual Forest expenditures in the first decade are \$13.9 million or 6 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$11.1 million, 65 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$22.3 million.

Alternative H has the capability to decrease forest-related private sector jobs in the regional area by 3 percent below the 1980 level in the first decade because of the decrease in timber harvest and Forest Service expenditures.

9. Alternative H1

The goal of this alternative is to maximize the Forest's wilderness resource, and increase timber harvests by departing from the long-term sustained yield capacity. Market outputs from lands outside of the wilderness would be maximized, but not to the point minimum management requirements for resource protection are not met. All roadless areas in the inventory, 503,162 acres, would be recommended to Congress for wilderness classification. This

alternative is essentially the same as alternative H except for the increase in timber harvest in later decades.

a. Roadless Area

All 503,162 acres in the roadless inventory will be recommended for wilderness classification under this alternative. Wilderness values will be protected pending a decision by Congress; thus, all 420,337 roadless acres tentatively suitable for timber production will be unavailable. In addition, 34,710 acres of Rackliff-Gedney roadless area on the Clearwater National Forest will be recommended for wilderness.

b. Recreation and Trails

This alternative provides the highest capacity for primitive recreation. No areas are maintained in roadless status. Recreation opportunities and settings change from semiprimitive to primitive in proposed wilderness, and from semiprimitive to roaded natural in unclassified areas as transportation systems are developed. More trails are modified to provide needed access. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand.

c. Wilderness

The entire roadless inventory, 503,162 acres, is recommended for wilderness classification to furnish the Forest's maximum contribution to the National Wilderness Preservation System. These areas will be managed according to wilderness management plans developed for each new wilderness, or amended wilderness plans if roadless areas are added to existing wildernesses. Existing wilderness (926,188 acres) will be managed according to the wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

d. Visual Quality

Visual quality objectives outside of existing wilderness are preservation on 39 percent of the area (which is the roadless area recommended for wilderness), and modification and maximum modification on 55 percent. The remaining 6 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of capacity. Potential carrying capacity during the first 5 decades provides for a projected low of 1,350 elk per year in decade 5 to a high of 3,500 elk per year in decade 1. Wilderness winter range is managed at about 90 percent capacity in Gospel- Hump, at nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return, and at nearly 67 percent capacity in roadless areas recommended for wilderness. Potential capacity provides for projected increases from 10,350 elk per year in decade 1 to 12,650 elk per year in decade 4, remaining nearly constant at 12,500 elk per year thereafter. No prescribed burning outside of wilderness is planned. Approximately 70 to 400 acres per year are scheduled for timber harvest on winter range in the first five decades. The greatest harvest is projected to occur on 1,520 acres per year during decade 8.

Summer Habitat: Nonwilderness summer range is managed at about 47 percent of habitat potential. Potential carrying capacity varies from 9,000 elk per year in decade 1 to a projected 8,850 elk per year in decade 3, remaining constant thereafter. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity for all wilderness, including roadless areas recommended for wilderness, provides for about 22,700 elk per year and remains constant throughout the planning horizon.

Total cover should remain adequate. However, proper distribution of elk hiding cover on suitable timber land will become increasingly difficult to maintain as areas are developed. This alternative does not provide for maintaining adequate security areas adjacent to on-going timber management activities.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Forty percent of the forested acres, including roadless areas recommended for wilderness, is projected to be in the 160-year-old and older age class by decade 15. About 5 percent old growth occurs in existing wilderness. This percentage is assumed to remain constant throughout the planning horizon.

(3) Moose Winter Range

About 12 percent of the existing Pacific yew communities that meet the criteria for moose winter range is recommended for wilderness. No other Pacific yew communities will be managed for moose winter range. This is expected to result in a significant decline over time in moose winter habitat.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump.

Because these lands would remain undeveloped, conflicts between managing for conservation of the wolf and grizzly bear and other management activities would not occur.

f. Fishery/Water Quality

The final fish outputs for this alternative are similar to those of Alternative H, the only difference being that in this alternative the timber harvest after the second decade is projected to be lower. This is because, in this alternative, harvests are not allowed to increase by more than 25 percent per decade. Lower harvest means less management-derived sediment. This reduced sediment allows for the same fish outputs, but they are carried into the fifth decade.

g. Range

Grazing levels are projected to rise from the current 42,000 AUMs to 45,000 in the third decade and remain very stable in all other decades.

h. Timber

The objective is to maintain high timber production on a constrained land base. The allowable sale quantity is allowed to depart from the long-term sustained yield capacity (LTSYC) level beginning in the fifth decade.

Approximately 62 percent of the tentatively suitable land is managed for scheduled timber outputs. The first decade allowable sale quantity of 89 MMBF per year is 12 percent below the 1974-1983 program sale quantity of 102 MMBF per year. Outputs are projected to increase to the LTSYC of 150 MMBF per year by the fourth decade. In the fifth decade, the allowable sale quantity is projected to increase to 197 MMBF, 44 MMBF above the LTSYC. This departure sale schedule is projected to continue to increase to 282 MMBF by decade 7. In decade 8, it is projected to decline and reach the LTSYC level by the tenth decade. This level is maintained for the balance of the planning horizon.

The average acres cut per year for the first decade are 3,661 of regeneration harvests (first entry shelterwood and clearcut) and 1,511 of intermediate

harvests (commercial thinning and area salvage). Total acres cut per year are 5,172 for the first decade.

1. Minerals

Of all lands classified as high or very high mineral potential, approximately 46 percent will remain withdrawn from mineral entry and another 1 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 53 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road Systems

Approximately 2,990 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development cost. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Road construction in decade 1 totals 760 miles, with 380 miles capital investment. In decade 2, road construction is projected to total 550 miles, 230 miles are capital investment. Road construction is projected to decline to a constant level of 80 miles total in decade 9. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative H1 is \$878 million, and represents a 22-percent decrease in PNV (\$241 million) from the maximum PNV benchmark. The major reasons for this reduction are the suitable lands proposed for wilderness in this alternative (471,000 acres), and an increase in fishery habitat requirements from minimum viable to minimum harvestable levels of anadromous fish. PNV is increased by \$62 million over Alternative H by allowing the allowable sale quantity to depart from the long term sustained yield level after the fifth decade. Annual Forest expenditures in the first decade are \$13.9 million or 6 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$10.4 million, 65 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous

fishery are included, the total annual benefits in the first decade are \$22 million.

Alternative H1 has the capability to decrease forest-related private sector jobs in the regional area by 2 percent below the 1980 level in the first decade because of the increase in timber harvest and Forest Service expenditures.

## 10. Alternative I

The goal of this alternative is to furnish a high-acreage addition to the Forest's wilderness resource. Market outputs from lands outside the wilderness would be maximized, subject to constraints imposed by minimum management requirements.

### a. Roadless Area

All of four roadless areas and parts of two others will be recommended to Congress for wilderness classification. The remainder will be opened to roaded development. Those proposed for wilderness in their entirety are Rapid River (Nez Perce portion), East Meadow Creek, West Meadow Creek, and Rackliff-Gedney (Nez Perce portion). Part of Mallard and Gospel-Hump (Jersey-Jack) are also proposed for wilderness. The total wilderness recommendation is 326,617 acres, 65 percent of all inventoried roadless acreage on the Forest.

Wilderness values in these areas will be protected pending a decision by Congress and they will be unavailable for roaded development. No recommendation is made for continued roadless management of any area. Approximately 434,800 acres, or 86 percent of the roadless inventory, will remain undeveloped at the end of the first decade.

### b. Recreation and Trails

No areas are maintained in roadless status. Recreation opportunities and settings change from semiprimitive to primitive in proposed wilderness, and from semiprimitive to roaded natural in unclassified areas as transportation systems are developed. More trails are modified to provide access. This alternative provides the second highest capacity for primitive recreation. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand.

### c. Wilderness

Four roadless areas will be recommended in their entirety to Congress for wilderness classification. They are Rapid River (Nez Perce portion), East Meadow Creek, West Meadow Creek, and Rackliff-Gedney (Nez Perce portion). Parts of two other roadless areas will also be recommended for wilderness. They are

Mallard, and Gospel-Hump (Jersey-Jack). All of these areas adjoin existing wildernesses and support has been shown for adding them to the wilderness system. This recommendation totals 326,617 acres, or 65 percent of all roadless acreage on the Forest. These areas, along with existing wilderness (926,188 acres), will be managed according to the amended wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

d. Visual Quality

Visual quality objectives outside of existing wilderness are preservation on 27 percent of the area (which is the roadless area recommended for wilderness), retention on 1 percent, and modification and maximum modification on 63 percent. The remaining 9 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of potential capacity. Potential carrying capacity during the first 5 decades provides for a projected low of 3,300 elk per year in decade 5 to a high of 5,000 elk per year in decade 2. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump and in roadless areas recommended for wilderness. Capacity is nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return Wildernesses. Potential capacity increases from about 9,950 elk per year in decade 1 to a projected 12,200 elk per year in decade 3, remaining nearly constant at 12,200 elk per year thereafter. No prescribed burning outside of wilderness is planned. Approximately 1,040 acres per year are scheduled for timber harvest on winter range in decade 1. Less than 440 acres per year are projected to be harvested during the remainder of the first 5 decades. The greatest harvest is projected to occur on about 2,670 acres per year during decade 9.

Summer Habitat: Nonwilderness summer range is managed at about 49 percent of habitat potential. Potential carrying capacity is projected to decrease from 10,800 elk per year in decade 1 to 10,500 elk per year in decade 4, remaining constant thereafter. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity for all wilderness, including roadless areas recommended for wilderness, is about 20,100 elk per year and remains constant throughout the planning horizon.

Total cover should remain adequate. However, proper distribution of elk hiding cover on suitable timber land will become increasingly difficult to maintain as areas are developed. This alternative does not provide for maintaining adequate security areas adjacent to on-going timber management activities.

(2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Thirty-seven percent of the forested acres, including roadless areas recommended for wilderness, is projected to be in the 160-year-old and older age class by decade 16. About 5 percent old growth occurs in existing wilderness. This percentage is assumed to remain constant throughout the planning horizon.

(3) Moose Winter Range

About 6 percent of the Pacific yew communities that meet the criteria for moose winter range is recommended for wilderness. No other Pacific yew communities will be managed for moose winter range. This is expected to result in a significant decline over time in moose winter habitat.

(4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 92 percent of these lands will remain unroaded at the end of the first decade, and 91 percent is projected to remain unroaded at the end of the fifth decade.

f. Fishery/Water Quality

The fishery objective for this alternative is the same as Alternative H, except that less lands are analyzed as classified. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). By limiting sediment yields to meet the objective, anadromous fish habitat potential is projected to decrease to 75 percent and resident fish habitat potential is projected to be reduced to 82 percent. All objectives are projected to be met by the third decade after implementation. Full habitat potential is achieved on the classified portion of the forest.

g. Range

Range yields start at 42,000 AUMs, the current situation, and gradually increase to 46,000, representing a 10-percent increase. Outputs are projected to remain stable after the fourth decade.

h. Timber

The objective is to provide a high level of timber outputs on a constrained land base. Approximately 65 percent of the current roadless areas would be recommended for wilderness .

Approximately 71 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 123 MMBF per year is 21 percent above the 1974-1983 program sale quantity of 102 MMBF. Outputs are projected to increase to the long-term sustained yield capacity of 176 MMBF per year by the second decade.

The average acres cut per year for the first decade are 4,900 of regeneration harvests (first entry shelterwood and clearcut) and 699 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 5,599 for the first decade.

1. Minerals

Of all lands classified as high or very high mineral potential, approximately 39 percent will remain withdrawn from mineral entry and another 2 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 59 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road System

Approximately 3,610 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development cost. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Road construction in decade 1 totals 950 miles, with 430 miles capital investment. In decade 2, road construction is projected to total 870 miles, 320 miles are capital investment. Road construction is projected to decline to a constant level of 90 miles total in decade 7. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative I is \$916 million, and represents an 18-percent decrease in PNV (\$204 million) from the maximum PNV benchmark. The major reasons for this reduction are the suitable lands proposed for wilderness (\$187 million), and an increase in fishery habitat requirements from minimum viable to minimum harvestable levels (\$17 million). Annual Forest expenditures in the first decade are \$16.4 million or 25 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$14.0 million, 112 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$25.6 million.

Alternative I has the capability to increase forest-related private sector jobs in the regional area by 16 percent above the 1980 level in the first decade because of the increase in timber harvest and Forest Service expenditures.

11. Alternative J

The goal of this alternative is to furnish a medium-acreage addition to the Forest's wilderness resource. Market outputs from lands outside of wilderness are also emphasized.

a. Roadless Area

All of three inventoried roadless areas and parts of two others will be recommended to Congress for wilderness classification. Those proposed for wilderness in their entirety are Rapid River (Nez Perce portion), East Meadow Creek, and Rackliff-Gedney (Nez Perce portion). Part of Mallard and Gospel-Hump (Jersey-Jack) are also proposed for wilderness. This recommendation totals 219,105 acres, 44 percent of the inventoried roadless acreage on the Forest.

Wilderness values in areas recommended for wilderness classification would be protected pending a decision by Congress and the areas would be unavailable for roaded development. No recommendations are made for continued roadless management of any area. Approximately 403,400 acres, or 80 percent of the roadless inventory, will remain undeveloped at the end of the first decade.

b. Recreation and Trails

No areas are maintained in roadless status. Recreation opportunities and settings change from semiprimitive to primitive in proposed wilderness, and from semiprimitive to roaded natural in unclassified areas as transportation systems are developed. More trails are modified to provide access. This alternative provides for high levels of primitive recreation. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades.

After 2010, additional sites will be developed and existing sites expanded to meet demand.

c. Wilderness

Three roadless areas will be recommended in their entirety to Congress for wilderness classification. They are Rapid River (Nez Perce portion), East Meadow Creek, and Rackliff-Gedney (Nez Perce portion). Parts of two other roadless areas will also be recommended for wilderness. They are Mallard and Gospel-Hump (Jersey-Jack). All of these areas adjoin existing wildernesses, and there is interest in adding them to the wilderness system. This recommendation totals 219,105 acres, or 44 percent of all roadless acreage on the Forest. These areas, along with existing wilderness (926,188 acres), will be managed according to the amended wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

d. Visual Quality

Visual quality objectives outside of existing wilderness are preservation on 18 percent of the area (which is the roadless area recommended for wilderness), and modification and maximum modification on 74 percent. The remaining 8 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of potential capacity. Potential carrying capacity during the first 5 decades provides for a projected low of 3,650 elk per year in decade 5 to a high of 5,450 elk per year in decade 2. Wilderness winter range is managed at about 90 percent capacity in Gospel-Hump and in roadless areas recommended for wilderness, and at nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return. Potential capacity increases from 9,300 elk per year in decade 1 to a projected 11,900 elk per year in decade 3 and remains nearly constant at 11,900 thereafter. No prescribed burning outside of wilderness is planned. Approximately 1,100 acres per year are scheduled for timber harvest on winter range in decade 1. Less than 460 acres per year are projected to be harvested during the remainder of the first 5 decades. The greatest harvest is projected to occur on about 3,450 acres per year during decade 9.

Summer Habitat: Nonwilderness summer range is managed at about 48 percent of habitat potential. Potential carrying capacity is projected to decrease from 12,000 elk per year in decade 1 to 11,700 elk per year in decade 3, remaining constant thereafter. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity for all wilderness, including roadless

areas recommended for wilderness, is about 17,400 elk per year and remains constant throughout the planning horizon.

Total cover should remain adequate. However, proper distribution of elk hiding cover on suitable timber land will become increasingly difficult to maintain as areas are developed. This alternative does not provide for maintaining adequate security areas adjacent to on-going timber management activities.

#### (2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Twenty-eight percent of the forested acres, including roadless areas recommended for wilderness, is projected to be in the 160-year-old and older age class by decade 15. About 5 percent old growth occurs in existing wilderness. This percentage is assumed to remain constant throughout the planning horizon.

#### (3) Moose Winter Range

About 6 percent of the existing Pacific yew communities that meet the criteria for moose winter range is recommended for wilderness. No other Pacific yew communities will be managed for moose winter range. A decline in moose winter habitat is expected to occur over time.

#### (4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres is recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 82 percent of these lands will remain unroaded at the end of the first decade, and 59 percent is projected to remain unroaded at the end of the fifth decade.

#### f. Fishery/Water Quality

The fishery objective for this alternative is the same as alternatives H and I. Alternative J analyzed less land for classification than either H or I. Existing habitat capacity for the Forest's fish resource is 86 percent of biological potential (100 percent). By limiting sediment yields to meet this objective, anadromous fish habitat potential is projected to decrease to 74 percent and resident fish habitat potential is projected to be reduced to 81

percent. All objectives are projected to be met by the third decade after implementation. Full habitat potential is achieved on the classified portion of the forest.

g. Range

Range outputs are projected to rise to 51,000 AUMs from the current 42,000 by the seventh decade and thereafter decrease slightly. This represents an increase of 21 percent over current grazing levels.

h. Timber

The objective is to maintain high timber production on a constrained land base. Approximately 44 percent of the roadless acreage on the Forest would be recommended for wilderness classification.

Approximately 84 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 137 MMBF per year is 34 percent above the 1974-1983 program sale quantity of 102 MMBF. Outputs are projected to increase to the long-term sustained yield capacity of 205 MMBF per year by the third decade.

The average acres cut per year for the first decade are 5,108 of regeneration harvests (first entry shelterwood and clearcut) and 973 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 6,092 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 32 percent will remain withdrawn from mineral entry and another 3 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 65 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road System

Approximately 4,660 miles of road are needed to complete the system. Capital investment in road construction is needed in areas with high initial development

costs. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Road construction in decade 1 totals 1,030 miles, with 460 miles capital investment. In decade 2, road construction is projected to total 990 miles, 340 miles are capital investment. Road construction is projected to decline to a constant level of 100 miles total in decade 9. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative J is \$1,014 million, and represents a 10-percent decrease in PNV (\$106 million) from the maximum PNV benchmark. The major reasons for this reduction are the suitable lands proposed for wilderness (\$101 million), and an increase in fishery habitat requirements from minimum viable to minimum harvestable levels (\$5 million). Annual Forest expenditures in the first decade are \$17.3 million or 32 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$15.7 million, 138 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$27.1 million.

Alternative J has the capability to increase forest-related private sector jobs in the regional area by 26 percent above the 1980 level in the first decade because of the increase in timber harvest and Forest Service expenditures.

12. Alternative K

The goal of this alternative is to furnish a moderate-acreage addition to the Forest's wilderness resource and to emphasize fish and wildlife resources outside of wilderness through specific drainage objectives.

a. Roadless Area

Three roadless areas will be recommended to Congress for wilderness classification. They are East Meadow Creek, Rackliff-Gedney (Nez Perce portion), and Rapid River (Nez Perce portion). This recommendation totals 172,966 acres, or 34 percent of all roadless acreage on the Forest.

Wilderness values in areas recommended for wilderness will be protected pending a decision by Congress and they will be unavailable for roaded development. No recommendations are made for continued roadless management of any area. Approximately 415,300 acres, or 83 percent of the roadless inventory, will remain undeveloped at the end of the first decade.

b. Recreation and Trails

No areas are maintained in roadless status. Recreation opportunities and settings change from semiprimitive to primitive in proposed wilderness, and from semiprimitive to roaded natural in unclassified areas as transportation systems are developed. More trails are modified to provide access. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand.

c. Wilderness

Three roadless areas will be recommended to Congress for wilderness classification. They are East Meadow, Rackliff-Gedney (Nez Perce portion), and Rapid River (Nez Perce portion). All of these areas adjoin existing wildernesses, and all have significant fish, wildlife, and water quality features that would be enhanced by wilderness classification. This recommendation totals 172,966 acres, or 34 percent of all roadless acreage on the Forest. The Clearwater National Forest portion of Rackliff-Gedney, 34,710 acres, is also recommended for wilderness. These areas, along with existing wilderness (926,188 acres), will be managed according to the amended wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

d. Visual Quality

Visual quality objectives outside of existing wilderness are preservation on 14 percent of the area (which is the roadless area recommended for wilderness), retention on 1 percent, partial retention on 10 percent, and modification and maximum modification on 64 percent. The remaining 11 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of potential capacity. Potential carrying capacity during the first 5 decades provides for a projected low of 6,530 elk per year in decade 3 to a high of 7,500 elk per year in decade 1. Wilderness winter range is managed at about 90 percent of capacity in Gospel-Hump and in roadless areas recommended for wilderness. Capacity is managed at nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return Wildernesses. Potential capacity is projected to increase from 9,550 elk per year in decade 1 to 11,900 elk per year in decade 3 and remain nearly constant at 11,900 elk per year thereafter.

Prescribed burning is planned on about 1,350 to 1,500 acres per year throughout the planning horizon. Approximately 80 to 2,000 acres per year are scheduled for timber harvest on winter range in the first five decades. The greatest harvest on winter range (2,000 acres per year) is projected to occur during the second decade.

Summer Habitat: Nonwilderness summer range is managed at about 49 percent of potential habitat. It will be managed using the "North Idaho Elk Coordinating Guidelines" (Leege, 1984), to achieve the following habitat potential: 100 percent in roadless areas, 75 percent in high elk objective areas (142,700 acres), 50 percent in moderate elk objective areas (610,600 acres), and 25 percent in low elk objective areas (179,200 acres). Potential carrying capacity is projected to decrease from 12,660 elk per year in decade 1 to 12,520 elk per year in decade 4, remaining constant thereafter. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity for all wilderness, including roadless areas recommended for wilderness, is about 16,200 elk per year and remains constant throughout the planning horizon.

Total elk hiding cover on summer range and proper distribution of cover on suitable timber land should be adequate, because no more than 30 percent of land managed for timber will be in nonhiding cover at a time. Security areas will be maintained in roadless areas and other areas with high elk management objectives.

#### (2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Twenty-seven percent of the forested acres, including roadless areas recommended for wilderness, is projected to be in the 160-year-old and older age class by decade 15. About 5 percent old growth occurs in existing wilderness. This percentage is assumed to remain constant throughout the planning horizon.

#### (3) Moose Winter Range

About 54 percent of Pacific yew communities that meet the criteria for moose winter range will be managed for moose winter range and timber production. About 46 percent will be managed for moose winter range as a component of the unregulated timber base. This maintains the moose winter habitat.

#### (4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are

Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 84 percent of these lands will remain unroaded at the end of the first decade, and 45 percent is projected to remain unroaded at the end of the fifth decade.

f. Fishery/Water Quality

This alternative has the same objectives and fish habitat results as Alternative G. The only difference between the two alternatives is that Alternative K treats three roadless areas as wilderness. This difference has no effect on the fishery outputs.

g. Range

Grazing levels start at a current grazing level of 42,000 AUMs, are projected to rise to 46,000 by the fifth decade, and thereafter remain relatively stable.

h. Timber

The objective is to maintain a moderate level of timber production consistent with emphasis on maintaining moderate levels of nonmarket resources on a constrained land base. Approximately 34 percent of roadless areas are recommended for wilderness designation.

Approximately 83 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 102 MMBF per year is equal to the 1974-1983 program sale quantity of 102 MMBF. Outputs are projected to increase to the long-term sustained yield capacity of 206 MMBF per year by the fourth decade.

The average acres cut per year for the first decade are 4,500 of regeneration harvests (first entry shelterwood and clearcut) and 50 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 4,550 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 28 percent will remain withdrawn from mineral entry and another 33 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 39 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road System

Approximately 4,400 miles of road are needed to complete the system. Capital investment in road construction is needed in areas with high initial development costs. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Road construction in decade 1 totals 920 miles, with 420 miles capital investment. In decade 2, roads construction is projected to total 910 miles, 340 miles are capital investment. Road construction is projected to decline to a constant level of 100 miles total in decade 9. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative K is \$980 million, and represents a 12-percent decrease in PNV (\$140 million) from the maximum PNV benchmark. The major reasons for this reduction are the suitable lands proposed for wilderness (\$89 million), and an increase in fishery habitat requirements from minimum viable to minimum harvestable levels (\$51 million). Annual Forest expenditures in the first decade are \$15.3 million or 17 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$12.0 million, 82 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$23.8 million.

Alternative K has the capability to increase forest-related private sector jobs in the regional area by 4 percent above the 1980 level in the first decade because of the increase in recreational use and Forest Service expenditures.

13. Alternative L

The goal of this alternative is to furnish a low-acreage addition to the Forest's wilderness resource and to emphasize fish and wildlife resources outside the wilderness through specific drainage objectives.

a. Roadless Area

One roadless area, East Meadow Creek, is recommended to Congress for wilderness classification. This recommendation totals 94,203 acres, or 19 percent of the roadless acreage on the Forest. Rapid River (Nez Perce portion) and Rackliff-Gedney (Nez Perce portion) will remain roadless.

Wilderness values in the area recommended for classification will be protected pending a decision by Congress and it will be unavailable for roaded development, as will the two areas assigned to continued roadless management. Approximately 415,600 acres, or 83 percent of the roadless inventory, will remain undeveloped at the end of the first decade.

b. Recreation and Trails

Two areas are maintained in roadless status. All remaining semiprimitive opportunities and settings change to roaded natural as transportation systems are developed, except in East Meadow Creek where recreation shifts from semiprimitive to primitive because it is recommended for wilderness classification. Existing developed sites and trails continue to receive low levels of funding for maintenance. Trail construction and reconstruction continue at current levels. Existing developed site capacity is adequate to accommodate projected demand for three decades. After 2010, additional sites will be developed and existing sites expanded to meet demand.

c. Wilderness

One roadless area, East Meadow Creek, will be recommended to Congress for wilderness classification. This wilderness recommendation totals 94,203 acres, or 19 percent of the roadless acreage on the Forest. This area, along with existing wilderness (926,188 acres), will be managed according to the amended wilderness management plans for the Gospel-Hump, Selway-Bitterroot, Hells Canyon, and Frank Church--River of No Return Wildernesses.

d. Visual Quality

Visual quality objectives outside of existing wilderness are preservation on 8 percent of the area (which is the roadless area recommended for wilderness), partial retention on 10 percent of the area, and modification and maximum modification on 65 percent. The remaining 17 percent of the area is not suitable for timber production. Visual quality objectives of partial retention and retention are assigned only to areas along major state and federal highways, wild and scenic river corridors, and other high public-use areas where timber harvesting will occur during the planning horizon.

e. Wildlife Habitat

(1) Elk Habitat Management

Winter Range: Nonwilderness winter range is managed at about 80 percent of potential capacity. Potential carrying capacity during the first 5 decades provides for a low of 8,500 elk per year in decade 1 to a projected high of 11,500 elk per year in decade 3. Wilderness winter range is managed at about 90 percent of capacity in Gospel-Hump and at nearly 100 percent in the Selway-Bitterroot and Frank Church-River of No Return Wildernesses, and in the roadless area recommended for wilderness. Potential capacity is projected to increase from 8,500 elk per year in decade 1 to 11,000 elk per year in decade 3

and remain nearly constant at 11,000 elk per year thereafter. Prescribed burning is planned on about 2,500 to 2,870 acres of winter range per year throughout the planning horizon. Approximately 82 to 2,160 acres per year are scheduled for timber harvest on winter range in the first five decades. The greatest harvest on winter range, about 2,160 acres per year, is projected to occur during the second decade.

Summer Habitat: Nonwilderness summer range is managed at about 52 percent of potential capacity. Potential carrying capacity remains constant at about 14,000 elk per year during the first 4 decades, then decreases to about 13,730 in the fifth decade, remaining constant thereafter. Wilderness summer range is managed at nearly 100 percent habitat potential. Potential capacity for all wilderness, including roadless areas recommended for wilderness, is about 15,100 elk per year, and remains constant throughout the planning horizon.

Total cover on summer range and proper distribution of elk hiding cover on suitable timber land should be adequate, because no more than 30 percent of the land managed for timber will be in nonhiding cover at a time. Security areas will be maintained in roadless areas and other areas with high elk management objectives.

#### (2) Old-Growth Habitat

Five percent of the nonwilderness forested acres within prescription watersheds is managed for old-growth-dependent species. Twenty-seven percent of the forested acres, including roadless areas recommended for wilderness, is projected to be in the 160-year-old and older age class by decade 15. About 5 percent old growth occurs in existing wilderness. This is assumed to remain constant throughout the planning horizon.

#### (3) Moose Winter Range

About 54 percent of Pacific yew communities that meet the criteria for moose winter range will be managed for moose winter range and timber production. About 46 percent will be managed for moose as a component of the unregulated timber base. This will maintain the moose winter habitat.

#### (4) Threatened and Endangered Species

No action will be taken that will jeopardize a species. An additional 3,390 acres are recommended for designation as essential habitat for the peregrine falcon.

Because of their currently unroaded condition and proximity to existing wilderness, approximately 334,730 acres of roadless lands offer the greatest potential of any of the nonclassified lands for contributing to the recovery and conservation of both the grizzly bear and the wolf. These roadless areas are Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump. To the extent that these lands are roaded, it will become increasingly more difficult to manage for recovery of these species. Human use control measures such as

road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. Approximately 84 percent of these lands will remain unroaded at the end of the first decade, and 45 percent is projected to remain unroaded at the end of the fifth decade.

f. Fishery/Water Quality

This alternative has the same results as alternatives K and G.

g. Range

Range outputs are projected to rise from the present 42,000 to 47,000 AUMs by the fourth decade, representing a 12-percent increase over current grazing levels.

h. Timber

The objective is to maintain a moderate level of timber production consistent with moderate levels of nonmarket resources on a constrained land base. Twenty percent of the roadless acreage would be recommended for wilderness designation.

Approximately 83 percent of the tentatively suitable timberland is managed for scheduled timber outputs. The first decade allowable sale quantity of 102 MMBF per year equals the 1974-1983 program sale quantity of 102 MMBF. Outputs are projected to increase to the long-term sustained yield capacity of 206 MMBF per year by the fourth decade.

The average acres cut per year for the first decade are 4,500 of regeneration harvests (first entry shelterwood and clearcut) and 50 of intermediate harvests (commercial thinning and area salvage). Total acres cut per year are 4,550 for the first decade.

i. Minerals

Of all lands classified as high or very high mineral potential, approximately 27 percent will remain withdrawn from mineral entry and another 24 percent will be open to mineral entry but subject to special conditions or stipulations to protect specific resource values. This will leave 49 percent of high/very high mineral potential lands open to mineral entry and subject to standard conditions or stipulations.

A single oil and gas lease has been processed under guidelines developed in a site specific Environmental Assessment. This lease will be administered under those guidelines.

New leases and subsequent lease re-issuance will undergo additional analysis as required by NEPA, tiering to this EIS through incorporation by reference the information presented in this EIS. Special stipulations are used whenever the leased area has surface resource values needing special protection to meet the alternative management objectives.

j. Road Systems

Approximately 4,860 miles of road are needed to complete the system. Capital investment in road construction is needed in areas of high initial development cost. The Forest confined its capital investment programs to main collectors and 30 percent of the local road systems in decades 1 and 2. These systems would provide initial access to or within a drainage.

Road construction in decade 1 totals 940 miles, with 430 miles capital investment. In decade 2, road construction is projected to total 1,020 miles, 360 miles are capital investment. Road construction is projected to decline to a constant level of 100 miles total in decade 9. Some of these roads will not be maintained or kept open for public use.

k. Socio-Economic

The PNV of Alternative L is \$977 million, and represents a 13-percent decrease in PNV (\$143 million) from the maximum PNV Benchmark. The major reasons for this reduction are the suitable lands proposed for wilderness and continued roadless management (\$89 million), and an increase in fishery habitat requirements from minimum viable to minimum harvestable levels (\$54 million). Annual Forest expenditures in the first decade are \$15.3 million or 17 percent above the present level. The annual returns to the U.S. Treasury in the first decade are \$12.0 million, 82 percent above the present level. When assigned values for recreation, livestock grazing, wildlife, and anadromous fishery are included, the total annual benefits in the first decade are \$23.7 million.

Alternative L has the capability to increase forest-related private sector jobs in the regional area by 4 percent above the 1980 level in the first decade because of the increase in recreational use and Forest Service expenditures.

D. Comparison of Alternatives

The discussion in this section focuses on how major resource outputs and economic effects vary among alternatives. A summary of how each public issue is affected by alternatives is in Table II-26. Total outputs for each alternative and selected benchmarks are shown in Table II-33.

1. Recreation

a. Dispersed Recreation

Dispersed recreation outside wilderness occurs in three settings: roaded natural-appearing, semiprimitive nonmotorized, and semiprimitive motorized (both semiprimitive settings are roadless by the Recreation Opportunity Spectrum definition. See Chapter III, Section B). All alternatives exceed projected demand for total dispersed recreation outside wilderness. Projected demand for semiprimitive recreation would exceed capacity in at least the high timber output alternatives as more acres became developed and roaded. Alternatives H,

H1, I, J, D, and K provide few acres for semiprimitive recreation by decade 15. Alternatives A, C, F, G, and G1 provide for the most semiprimitive recreation by assigning more existing unroaded acreage to unroaded prescriptions.

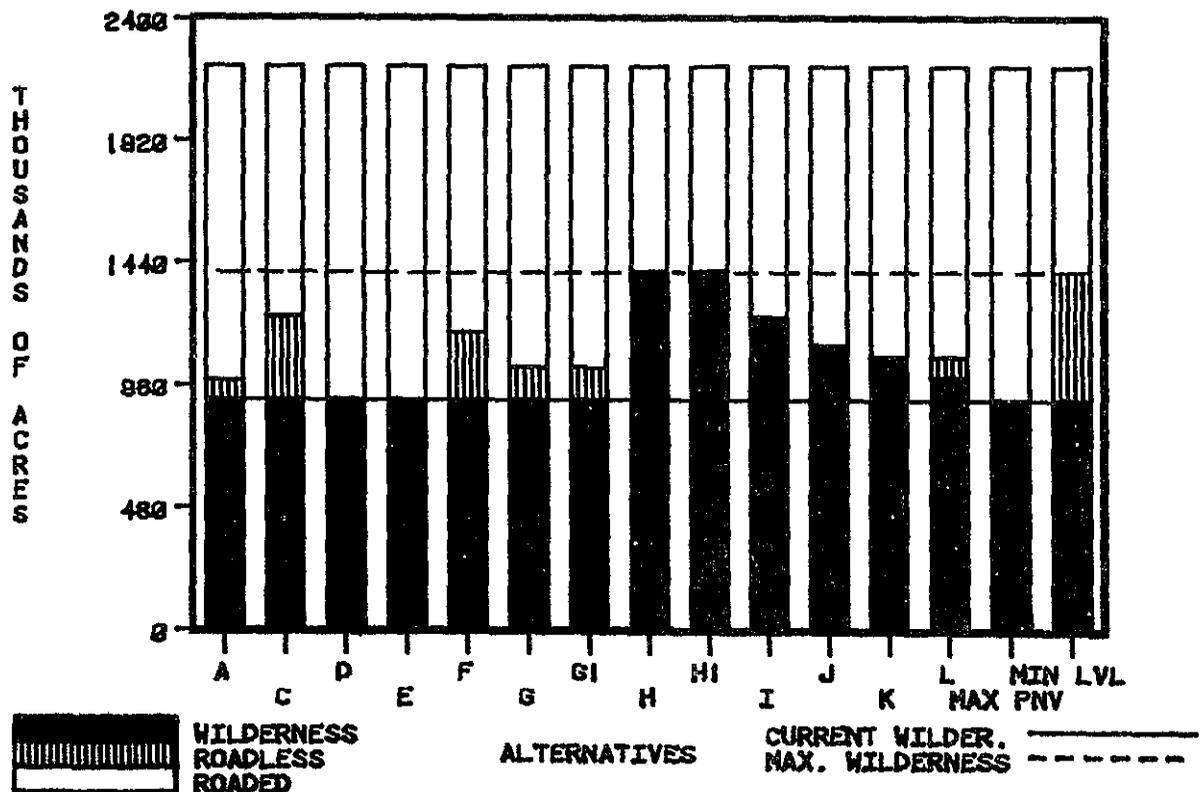
b. Developed Recreation

The existing developed sites have a maximum capacity of 185,954 recreation visitor days per year. All alternatives meet total projected use without additional capacity until about 2010. Land is available for the additional investment in capacity needed to meet projected demand after 2010 in all alternatives.

2. Wilderness, Recommended Wilderness, and Roadless Areas

Wilderness, roaded, and roadless acreages by alternative are shown in Figure II-2. Some or all of the current roadless inventory of 503,162 acres is assigned to roaded, continued roadless, or wilderness management in all alternatives. These assignments depend on the overall goals and objectives of each alternative.

Figure II-2  
Wilderness, Roaded, and Roadless Lands  
(Thousand Acres)



There are currently 926,188 acres of wilderness on the Forest. Projected use for wilderness recreation is exceeded by capacity in all alternatives.

Eighteen roadless areas on the Forest were evaluated for wilderness in the 1979 RARE II (Roadless Area Review and Evaluation) Final Environmental Impact Statement. Three of these areas were recommended for wilderness, 2 for further planning and 13 for nonwilderness. Of the areas recommended for wilderness or further planning by the Forest, all are now classified except one. One area recommended for nonwilderness is now too small for wilderness consideration.

In addition to these roadless areas, the Forest has seven areas that were not included in RARE II. Four of these areas adjoin RARE II areas and have been combined with them.

The one RARE II area recommended for wilderness but not presently classified, is part of a larger roadless area. There are 16 roadless areas in the current Forest roadless inventory (Meadow Creek Area 1845 was split into two areas and analyzed both together and separately).

Since 1979, management activities such as timber harvest and road construction have reduced the roadless acreage of some of these areas, and acreage recalculations (not boundary changes) have altered some acreages. These changes are listed in Table II-1.

Two of the roadless areas extend into other Forests. Rapid River Roadless Area 1922 extends into the Payette National Forest, and Rackliff-Gedney Roadless Area 1841 extends into the Clearwater National Forest. As explained in the previous chapter, these areas will be considered for wilderness classification in their entirety.

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

Table II-1  
Roadless Inventory Adjustments Since 1979  
(Acres)

Code	Name	Gross Acres	Net Acres	Change in Gross	Change in Net	Reasons	Revised Gross	Revised Net
1226	O'Hara-Falls Cr.	25326	25326	None	None		25326	25326
1227	Lick Pt.	8006	8006	None	None		8006	8006
1235	Dixie Sum't Nut Hill	17746	17746	-5803	-5803	Timber Sales, -3,750; Acreage Recalculation, -2,053	11943	11943
1841	Rackliff-Gedney Nez Perce NF	53000	53000	+2463	+2463	Acreage Recalculation	55463	55463
	Clearwater NF	34710	34710	None			34710	34710
1842	Middle Fork Face	11592	11200	-1030	-1030	Timber Sales, -700; Acreage Recalculation, -330	10562	10170
1844	Clear Cr.	26750	26700	-14824	-14824	Timber Sales, -16,514; Acreage Recalculation, +1,690	11926	11876
1845	Meadow Cr.	193100	193100	+8615	+8615		201715	201715
	1845C	95380	95380	+12132	+12132	Areas 1228 & 1229, +21,050; Timber Sales & Roads, -7,564; Recalc., -1,354	107512	107512
	1845D	97720	97720	-3517	-3517	Acreage Recalculation	94203	94203
1846	Middle Bargamin	12800	12800	-12800	-12800	Included in Frank Church-RONR Wilderness	0	0

Table II-1 (Continued)  
Roadless Inventory Adjustments Since 1979  
(Acres)

Code	Name	Gross Acres	Net Acres	Change in Gross	Change in Net	Reasons	Revised Gross	Revised Net
1847	Mallard	23060	22919	+313	+313	Acreage Recalculation, +313	23373	23232
1849	Silver Creek/ Pilot Knob	35920	35729	-14695	-14695	Timber Sales, -15,150; Acreage Recalculation, +455	21225	21034
1850	N. Fk. Slate	14610	14500	-1717	-1717	Timber Sales, -2,400; Acreage Recalculation, +683	12893	12783
1851	Little Slate	9200	9200	+10388	+10388	Area 1243, +10,000; Acreage Recalculation, +388	19588	19588
1852	John Day	10000	10000	+4991	+4991	Area 1244, +4,900; Timber Sales, -1,030; Acreage Recalculation, +1,121	14991	14991
1853	Big Canyon A	16500	16500	-16500	-16500	Included in Hells Canyon National <sub>1</sub> Recreation Area	0	0
1854	Klopton Cr- Corral Cr.	24300	23520	-24300	-23520	Included in Hells Canyon National <sub>1</sub> Recreation Area	0	0
1855	Salmon Face	9300	9300	+114	+114	Acreage Recalculation	9414	9414
1857	Kelly Mountain	800	800	-800	-800	No longer meets roadless criteria	0	0

Table II-1 (Continued)  
Roadless Inventory Adjustments Since 1979  
(Acres)

Code	Name	Gross Acres	Net Acres	Change in Gross	Change in Net	Reasons	Revised Gross	Revised Net
1913	Dixie Tail	8288	8288	-8288	-8288	Included in Frank Church-RONR Wilderness	0	0
1921	Gospel-Hump (Jersey-Jack)	57046	56780	-2459	-2459	Acreage Recalculation, Wilderness Boundary Adjustments -2,459	54587	54321
1922	Rapid River							
	Nez Perce NF	28100	27940	-4480	-4640	Boundary Adjustments; Acreage Recalculation	-23620	23300
	Payette NF	124445	123685	-70949	-70949		53496	52736

1/ These areas are included in the Environmental Impact Statement for the Hells Canyon National Recreation Area.

Table II-2 shows areas recommended for wilderness by alternative. Each roadless area was considered for wilderness in at least one alternative and for nonwilderness in at least one alternative. All of Area 1841, both Nez Perce and Clearwater National Forest portions, was considered for wilderness in Alternative H.

Five alternatives feature wilderness recommendations, ranging from 100 percent of the roadless acreage to 20 percent. Three alternatives, H, I, and J, maximize commodity production from lands outside the proposed wildernesses.

Table II-2  
Wilderness Recommendations for Roadless Areas by Alternative  
(Acres and Percentage)

Roadless Area	A(CD) through G(PA)	Alternatives					L
		H&H1	I	J	K		
226-0'Hara/ Falls Creek	0	25,326 (100%)	0	0	0	0	
227-Lick Pt.	0	8,006 (100%)	0	0	0	0	
235-Dixie/Nut	0	11,943 (100%)	0	0	0	0	
841-Rackliff/ Gedney							
Nez Perce NF	0	55,463	55,463	55,463	55,463	0	
Clearwater NF	0	34,170 (100%)	(62%)	(62%)	(62%)	0	
842-Middlefork Face	0	10,170 (100%)	0	0	0	0	
844-Clear Cr.	0	11,876 (100%)	0	0	0	0	
845-Meadow Cr.	0	201,715 (100%)	201,715 (100%)	0	0	0	
845C-W.Mdw.				94,203 (47%)	94,203 (47%)	94,203 (47%)	
845D-E.Mdw.							
847-Mallard	0	23,232 (100%)	17,233 (74%)	17,233 (74%)	0	0	
849-Silver/Pilot	0	21,034 (100%)	0	0	0	0	
850-N.Fk.Slate	0	12,783 (100%)	0	0	0	0	
851-Little Slate	0	19,588 (100%)	0	0	0	0	
852-John Day	0	14,991 (100%)	0	0	0	0	
855-Salmon Face	0	9,414 (100%)	0	0	0	0	
921-Gospel-Hump (Jersey-Jack)	0	54,321 (100%)	28,907 (53%)	28,907 (53%)	0	0	
922-Rapid River							
Nez Perce NF	0	23,300 (16%)	23,300 (16%)	23,300 (16%)	23,300 (16%)	0	
Payette (R4)	0						

Table II-3 shows how the roadless resource would be managed under different alternatives. These are summaries of management prescriptions applied to roadless lands to meet various management objectives. Management emphases used are roaded, unroaded, wilderness, Research Natural Area, and minimum level. The same information is given for each roadless area in Appendix C.

The wilderness emphasis excludes any kind of roaded development, and allows ecosystems in the area to be affected by natural processes only. All timber prescriptions are included in the roaded development emphasis, as are all deer-elk winter range prescriptions which allow timber harvest and road construction. In the unroaded management emphases, existing roadless acreage is assigned to continued roadless management which precludes timber harvest, and minimum level emphasis is for the most part assigned to lands unsuitable for timber production and/or lands that are not needed or are not cost-efficient in meeting the goals of a particular alternative. Research Natural Area prescriptions generally exclude activities which directly or indirectly modify ecological processes. Roads must be planned around RNAs except under certain conditions. (Road right-of-way is reserved through the No Business Creek RNA.)

Table II-3  
Management Emphasis for Roadless Areas  
(Thousand Acres)

Management Emphasis	A(CD)	C	D	E	F	G(PA) & G1	H& H1	I	J	K	L
<u>Nonwilderness</u>											
Roaded											
Development	372.4	146.8	441.2	441.2	218.8	293.2	0	154.3	256.0	292.0	292.0
Unroaded											
Management	78.8	333.5	0	0	257.0	179.1	0	0	0	8.3	87.1
Minimum Level	41.5	12.4	51.6	51.6	16.9	20.4	0	12.9	18.6	20.4	20.4
Research											
Natural Area	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
<u>Wilderness</u>											
Wilderness	0	0	0	0	0	0	503.2	326.6	219.1	173.0	94.2
<u>Summary of Management Emphasis</u>											
Developed											
Decade 1	103.4	53.1	120.8	155.2	61.7	46.1	0	68.3	99.7	87.8	87.5
Decade 5	413.9	163.3	473.3	473.3	243.2	321.9	0	167.1	274.6	320.7	320.7
Roadless											
Decade 1	399.7	450.0	382.3	347.9	441.4	457.0	0	108.2	184.3	242.3	321.4
Decade 5	89.2	339.8	29.8	29.8	259.9	181.2	0	9.4	9.4	9.4	88.2
Wilderness	0	0	0	0	0	0	503.2	326.6	219.1	173.0	94.2

### 3. Visual Quality

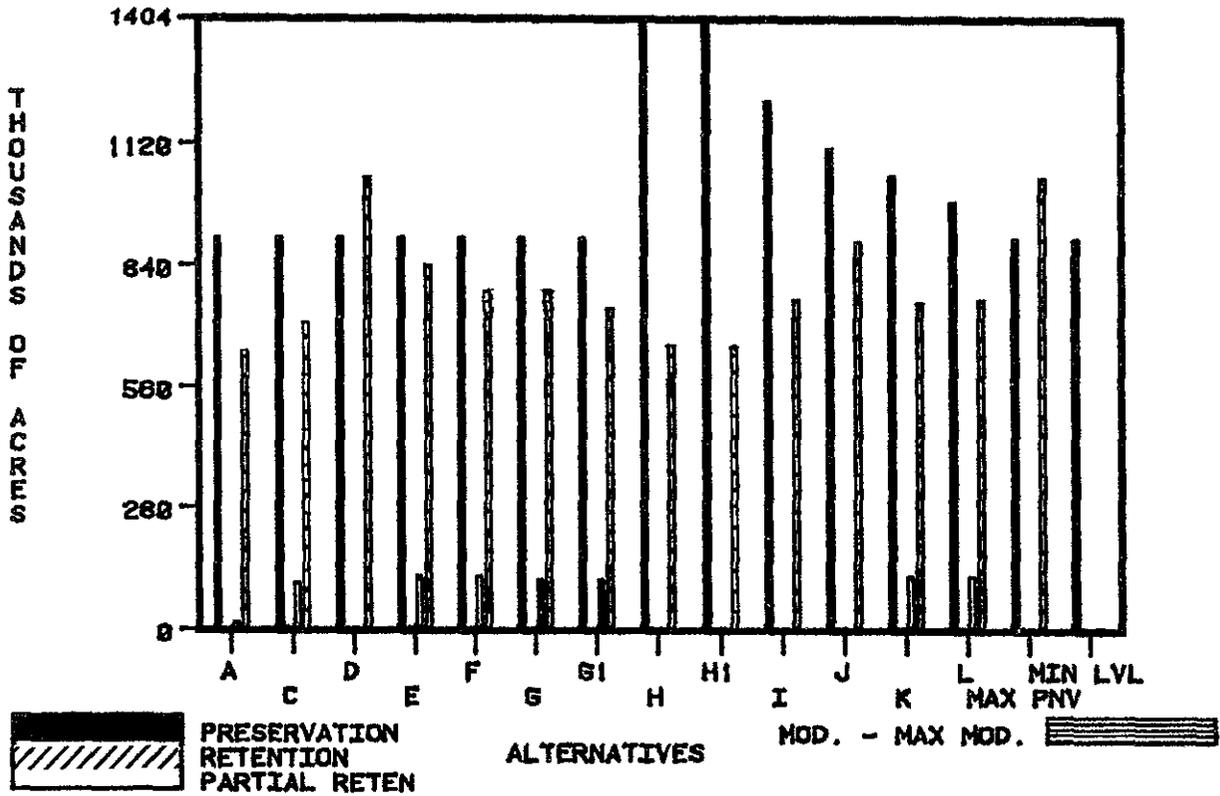
Visual quality objectives are standards to which proposed changes in the character of the landscape can be compared to determine acceptability of the change. The preservation objective is applied to wilderness and other special areas where the natural landscape should be unaltered by forest management activities. The retention objective is applied to areas where activities should not be evident to the casual forest visitor and partial retention to areas where activities may be evident but must remain subordinate to the natural landscape. These visually sensitive areas are those areas along major state and federal highways, wild and scenic river corridors, and other high public use areas. Modification and maximum modification are applied to less visually sensitive areas where changes can dominate the natural landscape but should look natural from a distance.

The criteria developed to assure that management practices meet visual quality objectives are described as standards in the management prescriptions. These standards are mitigation measures designed to reduce the severity of impactful practices and are quantifiable criteria designed to constrain management activities. The quantifiable criteria are as follows:

- Size of activity, measured by the maximum size of opening or cutting unit.
- Amount of area harvested per decade.
- Slash disposal/site preparation, measured by percent of treatment.
- Clearcut as a percentage of acres harvested.

The current visual quality inventory identifies approximately 362,600 acres as retention or partial retention. The alternatives differ in the emphasis placed on achieving these visual quality objectives. Visual quality objectives were inventoried and mapped for the Forest according to the procedure described in National Forest Landscape Management (USDA Forest Service, 1977). Alternative A was not based on this procedure; it was based on all currently approved land use plans. Alternatives D, H, H1, I, and J meet only the modification and maximum modification objectives. All other alternatives use various combinations of visual quality objectives. Acres of visual quality objectives for each alternative are shown in Figure II-3 and Table II-4.

Figure II-3  
Visual Quality Objectives



\* "Retention" is too small to show on the graph.

Table II-4  
Visual Quality Objectives of Areas to Be Harvested in Each Alternative  
(Acres)

Visual Quality Objective	Alternative												
	A	C	D	E	F	G, G1	H, H1	I	J	K	L	MAX PNV	MIN LVL
Retention	23	4803	0	4803	4803	4803	0	0	0	4803	4803	0	0
Partial Retention	14348	109198	0	123582	123578	122546	0	0	0	123300	123641	0	0
Modification	642892	723121	1056136	845529	760712	784320	655117	763682	896047	768933	776052	1056136	0

#### 4. Research Natural Areas

Research Natural Areas (RNAs) are established by the Chief of the Forest Service, and typify important forest, shrubland, grassland, aquatic, and geologic types that have special or unique characteristics of scientific interest and importance. The Forest has two established RNAs, O'Hara at 7,000 acres and Moose Meadow at 1,015 acres.

Additional RNA assignments are listed in the Northern Regional Guide. The Forest will propose seven additional areas in all alternatives, three of which are within established wildernesses. They are listed in Chapter III.

#### 5. Wildlife

##### a. Threatened and Endangered (T & E) Species.

No action will be taken in any alternative that will jeopardize a T&E species. As more detailed information becomes available regarding implementation of the Preferred Alternative and regarding the scope of individual projects, potential adverse impacts will be assessed and changes necessary to prevent them will be made. Also, as more detailed information regarding the population structure, home ranges, and habits of both grizzly bears and wolves becomes available, potential adverse impacts of implementing the Preferred Alternative will be re-evaluated and changes necessary to prevent them will be made. Specifically with regard to the wolf and grizzly bear, the Forest will cooperate with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service (USFWS) to identify areas to be managed for recovery of the wolf and grizzly bear and to identify measures necessary to reduce man-induced mortality.

As a matter of policy, the Forest will consult with USFWS throughout implementation of the Preferred Alternative to ensure that adverse impacts on T&E species are mitigated to an acceptable level or eliminated entirely.

Following is a summary of the current status of T&E wildlife species.

Peregrine Falcon: No known active nests occur on the Forest. Approximately 102,000 acres have been identified as suitable, but unoccupied habitat that is essential for species recovery. These areas are adjacent to Squaw Creek, the Salmon and Snake Rivers, and Rapid River. The Forest has completed a habitat survey in cooperation with USFWS. Findings indicate that other areas on the Forest also provide suitable habitat for the peregrine falcon. These include habitats in the vicinity of Riggins, along the Selway River within the Selway-Bitterroot Wilderness, along the Salmon River both within and outside of the Frank Church-River of No Return Wilderness, and within the Gospel-Hump Wilderness. An additional 3,390 acres is recommended for designation as essential habitat in all alternatives.

Bald Eagle: A small number of bald eagles winter along the Forest's larger river systems and use river canyons as movement corridors or travel lanes. Approximately 44,000 acres have been designated as occupied essential habitat.

These lands are located in the vicinity of McComas Meadows and along the Selway, Middlefork of the Clearwater, Southfork of the Clearwater, and Salmon Rivers. Recommended bald eagle essential habitat will remain unchanged from the present in all alternatives. Fish is the primary food supply for the bald eagle. The differences in fish habitat potential among alternatives A through L in terms of providing a food source for bald eagles is likely to be insignificant.

Northern Rocky Mountain Wolf: Fifty-five sightings involving 75 wolves were reported on the Forest between 1947 and 1983. Ninety-six percent of the sightings have occurred since 1972. Twenty-six (47 percent) of the sightings have been rated as probable. Kaminski and Hansen (1984) reported 39 of 63 wolf sightings on the Forest since 1975 as probable. The wolf recovery team has identified north-central Idaho as an area that they believe has the ability to support wolf populations. Based on the team's findings and recommendation, the Forest Service's Regional Office (Region 1) has directed the Nez Perce Forest to provide the habitat necessary to support at least 10 animals.

Because of their currently unroaded condition and proximity to existing Wilderness, approximately 334,731 acres of roadless lands (Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump) offer a greater potential than any other nonclassified lands for contributing to recovery and conservation of the wolf.

These nonclassified lands plus the Selway-Bitterroot Wilderness (560,088 acres), Frank Church-River of No Return Wilderness (105,736 acres) and half of the Gospel-Hump Wilderness (100,232 acres) are lands that possess the greatest potential for recovery of the wolf on the Nez Perce Forest. Assuming that a wolf pack of 10 animals requires 1,000 square miles, the potential capacity of the Forest is about 20 animals (Table II-33).

All alternatives can be implemented such that wolves will not be jeopardized. However, to the extent that the nonclassified lands are roaded, it will become increasingly more difficult to manage for recovery of this species. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for the wolf. For example, open road densities should not exceed 0.94 miles/square mile (Thiel 1985). The percentage of the acreage of these nonclassified lands that is projected to be developed by the end of the fifth decade by alternative is: D and E - 100 percent; A - 83 percent; G and G1 - 58 percent; K, and L - 55 percent; J - 41 percent; F - 32 percent; C - 15 percent; I - 9 percent; and H and H1 - none.

Grizzly Bear: Historical evidence indicates that grizzlies once occupied portions of the Forest along the Salmon and Clearwater Rivers and within the Selway-Bitterroot Wilderness (Willard and Herman 1978). Observations over the relatively recent past suggest that a small number of scattered individuals may still occupy the Selway-Bitterroot area (Jonkel 1981; Butterfield and Almack 1985). Although it does not define the boundaries of the recovery area, the Grizzly Bear Recovery Plan identifies the Selway-Bitterroot Ecosystem as a grizzly bear recovery area.

An initial survey to evaluate the quality of grizzly bear habitat in the Selway-Bitterroot Wilderness was completed in 1985 (Butterfield and Almack 1985). Efforts are currently underway to map grizzly habitat in the ecosystem.

Although the evaluation and mapping of the habitat has just begun, the Selway-Bitterroot Wilderness (560,088 acres), the Frank Church-River of No Return Wilderness (105,736 acres) and approximately 334,731 acres of currently roadless nonclassified lands (Mallard, East and West Meadow Creek, Rackliff-Gedney, and Gospel-Hump) adjacent to these wildernesses offer the greatest potential for contributing to recovery and conservation of the grizzly bear. To the extent that the nonclassified lands are roaded, it will become increasingly more difficult to manage for recovery of the grizzly. Human use control measures such as road closures, area closures, and timber sale scheduling will be needed to maintain security habitat for these species. The percentage of the acreage of these nonclassified lands that is projected to be developed by the end of the fifth decade by alternative is: D and E - 100 percent; A - 83 percent; G and G1 - 58 percent; K, and L - 55 percent; J - 41 percent; F - 32 percent; C - 15 percent; I - 9 percent; and H and H-1 - none.

Should the grizzly bear population on the Forest progress toward a recovered population, bears would undoubtedly use some land outside of the wilderness. Should this occur, these lands and the management activities upon them would be re-evaluated in consultation with the U.S. Fish and Wildlife Service (USFWS) and the Idaho Department Fish and Game (IDFG) to identify measures necessary to prevent adverse impacts to the bear.

No activities such as mineral exploration or development are planned within the wilderness that would jeopardize the bear's habitat. The managed fire plan within the Selway-Bitterroot Wilderness and on lands adjacent to the Wilderness should maintain a diversity of habitat over time that is suitable for the grizzly bear.

Assuming a grizzly bear density of one bear per 40 square miles, the Forest's potential capacity (Table II-33) for supporting grizzly bears is estimated to be 39 animals for Alternatives A through L. Only landownership of the Nez Perce National Forest within the Wildernesses and adjacent undeveloped lands described above is considered in this estimate.

There is no recent preventable or nonpreventable mortality data for grizzly bears on the Nez Perce Forest. The last confirmed evidence of grizzly bears inhabiting this area and the last confirmed mortality of a grizzly bear in this area occurred in 1956 in the upper Lochsa drainage of the Clearwater National Forest (Davis et al, 1985). Nevertheless, the annual preventable mortality target for the Nez Perce National Forest is zero.

The U.S. Fish and Wildlife Service will be informally consulted throughout implementation of any alternative, and formal consultation will occur if an activity may adversely affect a species or its habitat.

Changes made to the Preferred Alternative due in part to the formal biological opinion from U.S. Fish and Wildlife Service are:

- The Forest will make no entry into the Mallard Creek or Gospel-Hump roadless areas until the Forest completes the consultation process with the U.S. Fish and Wildlife Service in conjunction with a more site-specific EIS that will be prepared for these areas.
- The language and intent to modify elk summer habitat goals and objectives in order to achieve allowable sale quantity goals and objectives has been deleted. It is the Forest's intent to meet elk habitat objectives.
- Significantly improved policy and direction for managing access and road closures appears as Forestwide and management area standards.
- No road construction or timber harvest activity is planned within the West Meadow Creek roadless area (#1845c) during the first decade after implementing the Preferred Alternative, except for the portion that is to the west of the hydrologic divide between Meadow Creek and the Red River and American River drainages.
- Other conservation recommendations that the U.S. Fish and Wildlife Service identified in its supplement to formal consultation have been incorporated into the Forest Plan as Forestwide standards and management area direction.

b. Other Wildlife

Elk are a big-game indicator species. Table II-5 illustrates how both winter range and summer habitat carrying capacities vary by alternative and decade. Winter range carrying capacities are dependent upon production of palatable forage through a combination of prescribed fire and timber harvest. Table II-6 illustrates by time period the type of treatment necessary to achieve the predicted carrying capacities.

Elk capacities reflect livestock influences. Potential elk winter range carrying capacity is reduced 20 percent Forestwide by livestock grazing in all alternatives, assuming no change from present grazing levels.

In all alternatives, winter range capacities limit summer habitat populations. However, summer populations on the Forest are not solely dependent on winter range capacity of the Forest, since many animals winter on State, private, and other Federal lands. In addition, winter range data is much more refined than summer habitat data. For these reasons, carrying capacity on winter range cannot be directly compared to summer habitat capacity.

Table II-5  
 Carrying Capacity of Elk Winter and Summer Habitat by Decade<sup>1</sup>  
 (Thousands of Animals, Annual Average)

Alternative	Planned		Projected							
	1988-1997		1998-2007		2008-2017		2018-2027		2028-2037	
	Wntr	Sumr								
A (CD)	16.0	31.8	17.9	31.8	19.8	31.4	18.4	31.3	16.8	31.3
C	15.5	29.6	18.0	29.6	22.6	29.6	22.2	29.6	21.2	29.6
D	15.0	27.3	16.6	27.2	18.4	27.2	17.5	27.1	18.5	26.9
E	16.5	27.7	25.1	27.7	28.2	27.7	24.9	27.7	21.7	27.7
F	17.0	29.0	21.5	29.0	26.2	29.0	22.2	29.0	23.3	29.0
G (PA)	20.4	32.3	24.1	32.3	27.1	32.0	25.8	32.0	24.2	32.0
G1	20.3	32.0	24.1	31.7	26.8	31.7	25.5	31.7	32.7	31.7
H	13.8	31.7	15.0	31.6	15.8	31.6	15.5	31.6	13.9	31.6
H1	13.8	31.7	15.2	31.6	15.8	31.6	15.5	31.6	13.9	31.6
I	14.8	30.9	16.1	30.9	17.0	30.7	15.7	30.6	15.5	30.6
J	14.4	29.4	16.2	29.2	16.8	29.1	15.8	29.1	15.6	29.1
K	17.0	28.8	17.9	28.8	18.4	28.8	18.6	28.7	19.0	28.7
L	17.0	29.1	20.0	29.1	22.5	29.1	22.2	29.1	21.4	28.8
Min Lvl	14.4	41.8	15.1	41.8	16.0	41.8	15.9	41.8	15.9	41.8

<sup>1</sup>/ Direct comparison between winter and summer numbers should be done with caution because of a large difference in the precision and accuracy between the two values.

Table II-6  
Vegetative Treatment on Elk Winter Range  
(Thousand Acres)

Alter- native	Planned		Projected							
	1988-1997		1998-2007		2008-2017		2018-2027		2028-2037	
	Pres- cribed Fire	Timber Harvest								
A(CD)	5.5	1.2	5.5	9.0	5.5	0.8	5.5	0.7	5.5	-
C	26.9	9.8	31.8	12.7	27.6	3.0	31.9	8.2	27.6	0.5
D	-	10.9	-	9.0	-	3.2	-	14.1	-	-
E	25.0	12.8	28.7	1.9	25.7	8.8	28.7	3.0	25.7	2.1
F	26.9	22.2	31.8	17.7	27.6	4.9	31.9	6.7	27.6	0.8
G(PA)	50.0	12.5	50.0	10.0	50.0	2.1	50.0	1.8	50.0	-
G1	50.0	13.6	50.0	5.7	50.0	1.8	50.0	0.2	50.0	-
H	-	3.9	-	2.1	-	0.9	-	0.8	-	-
H1	-	3.9	-	1.7	-	1.3	-	0.7	-	3.6
I	-	10.4	-	3.0	-	1.8	-	4.4	-	-
J	-	11.0	-	2.9	-	2.2	-	4.6	-	-
K	14.2	16.0	13.5	20.0	14.9	3.0	13.5	2.3	14.9	0.8
L	25.0	16.3	28.7	21.6	25.7	6.2	28.7	6.1	25.7	0.8

Livestock grazing on elk summer habitat results in competition between elk and livestock and consequently reduces elk summer habitat potential. Open roads also reduce habitat potential (Thomas, 1979; Lyon, 1979). The combined effects of livestock grazing and open roads on elk summer habitat potential on nonwilderness lands is illustrated in Table II-7. The numbers shown represent the percentages of unaffected habitat.

In all alternatives, wilderness winter ranges are managed at nearly 90 percent of capacity in Gospel-Hump and 100 percent of capacity in Selway-Bitterroot and Frank Church-River of No Return. Winter range in roadless areas recommended for wilderness is managed at 67 percent capacity in Alternatives H and H1; 90 percent in I, J, and K; and 100 percent in L. Summer habitat in all wilderness and roadless areas recommended for wilderness is managed at nearly 100 percent of capacity.

Table II-7

Elk Summer Habitat Remaining on Nonwilderness Lands After Livestock Grazing and Road Construction, Planned in Decade 1, Projected in Decades 2-4 (Percentage)

Alternative	Remainder After Livestock Grazing	Remainder After Open Roads	Total Remaining Habitat
A (CD)	88	72	63
C	90	64	58
D	88	56	48
E	90	57	51
F	90	62	55
G (PA)	89-88	73	66-65
G1	89-88	73	65-64
H	86	55	47
H1	86	55	47
I	85	57	48
J	88	55	48
K	87	56	49
L	87	59	52
MIN LVL	100	100	100

Total cover and proper distribution of cover will be adequate only on lands not suitable for timber production in Alternatives A, D, H, H1, I, and J except in roadless areas, wilderness, or lands recommended for wilderness. In the remaining alternatives total cover and distribution of cover should be adequate on all forested lands.

Security areas will be provided in each alternative on lands unsuitable for timber production due to a lack of roads. On the average, 4.5 miles of road per section will be built to fully access lands that are designated as suitable for timber harvest. Management at a low or moderate intensity for timber production requires an average open road density of 2 miles per square mile. Management at a high intensity for timber production requires an average open road density of 3 miles per square mile. Security habitat is increased as density of open roads decreases. Therefore, security on suitable timberlands can be provided to the degree that open roads can be reduced on the average from 4.5 miles per square mile to 2 or 3 miles open road per square mile. For each alternative, Table II-8 illustrates the acreages within each of these categories.

Table II-8  
Big-Game Security Areas on Summer Habitat on Existing Nonclassified Lands  
(Thousand Acres)

Alternative	Unsuitable for Timber Production	Suitable for Timber Production	
		Low/Moderate <sup>1</sup> Intensity	High <sup>2</sup> Intensity
A (CD)	413	526	131
C	233	670	167
D	14	845	211
E	96	779	195
F	174	717	179
G (PA)	158	734	178
G1	158	734	178
H	404	533	133
H1	404	533	133
I	306	611	153
J	174	717	179
K	223	678	169
L	165	724	181
MIN LVL	1070	-	-

1/ Required open road density is 2 miles per square mile

2/ Required open road density is 3 miles per square mile

Moose, another big-game management indicator species, are very dependent during the winter upon old-growth grand fir forest types with an understory of Pacific yew (Pierce, 1983).

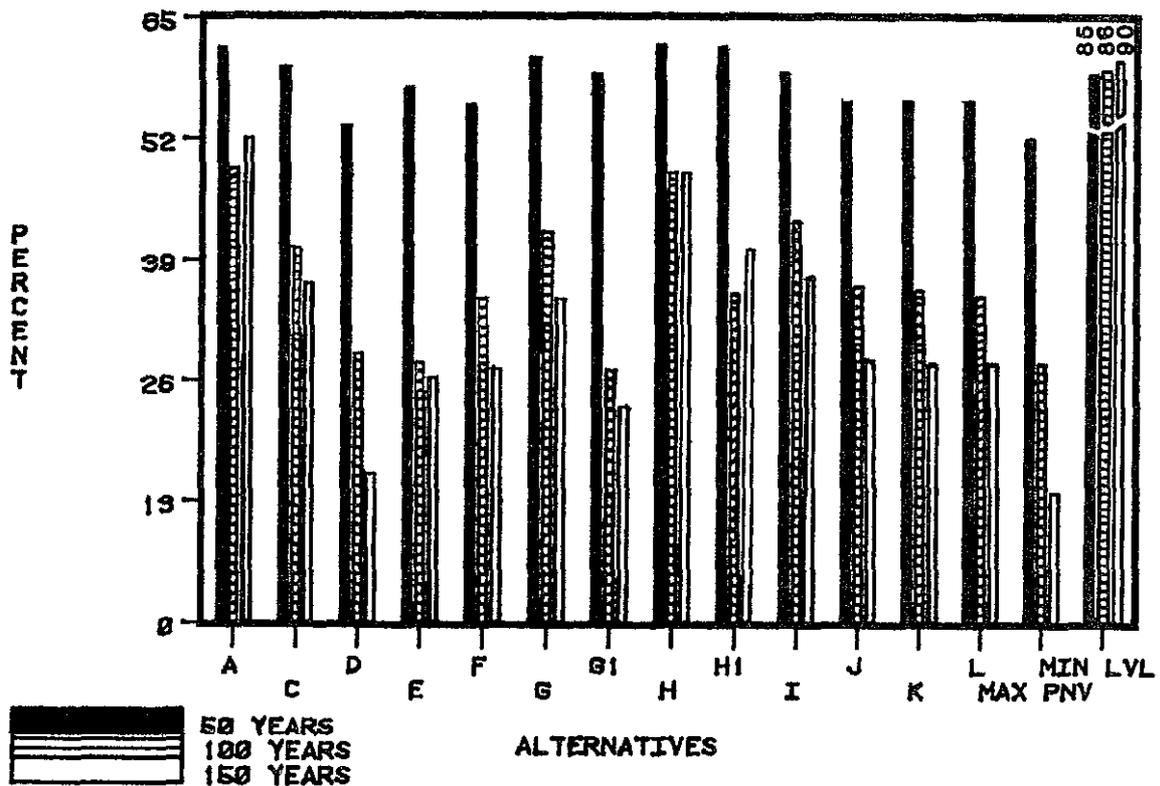
Management of Pacific yew communities is not an objective in Alternative A, current management, or in Alternatives D, E, H, I, and J, which furnish high commodity outputs from nonwilderness lands. Moose winter range would decline to 12 percent, or less, of the current level over time if these alternatives were implemented. Alternatives C, F, G, K, and L would maintain moose winter range at 73 percent of the current level, or greater.

A reduction of a given percent of moose habitat, cannot be equated to a potential loss by a corresponding percent of the moose population. For example, a 20 percent loss of moose habitat may result in less than a 20 percent loss in moose populations. The relationship between available winter habitat and moose numbers is probably not linear. Nevertheless, a loss of habitat to 12 percent or less of current levels would significantly reduce or eliminate moose populations.

In order to maintain minimum viable populations of old-growth-dependent species, an estimated 5 percent of the forested acres within prescription watersheds and 10 percent of the total forested acres will be managed as old-growth habitat in

all alternatives except one. It is uncertain what percentage of forest communities that are 160 years old or older is suitable old-growth habitat. Nevertheless, the amount of old-growth and older age classes is used as an indicator of the total amount of old-growth habitat available in each alternative. Figure II-4 displays the percentage of forested lands in age classes over 160 years. The percentage of forested lands in age class 160 years or older on existing nonclassified lands at the fifth decade is projected to vary from a low of 53 percent (Alternative D) to a high of 62 percent (Alternatives A, H, and H1). At the end of the fifteenth decade, the percentages are projected to vary from a low of 16 percent (Alternative D) to a high of 52 percent (Alternative A). No alternative drops below 10 percent of the forested acres in age class 160 years or older at 150 years. A rough estimate of 5-percent old-growth habitat occurs within wilderness. This percentage is assumed to remain constant.

Figure II-4  
 Projected Old Growth (160+ Year-Old Stands) on Existing Nonclassified Lands in 50, 100, and 150 Years (Percent)



A certain percent reduction in old growth habitat does not necessarily equate to a corresponding percent reduction in the number of species or population levels of a given species that are dependent upon old-growth habitats. Although there is a relationship between the amount of habitat available and the populations and the species composition of wildlife communities using the habitat, the relationship is not linear.

At what point a reduction in habitat begins to significantly reduce the number of species for the population levels of a species is largely unknown. Nevertheless, as the quantity of old-growth habitat is significantly reduced over time and as its distribution patterns are altered, we expect to see significant decreases in the total number of wildlife species and significant changes in species composition of wildlife communities that are associated with old-growth habitats.

Since animals are products of their environments, maintenance of a diverse vegetative community results in a diverse wildlife community. A portion of the Forest is maintained in old growth and other vegetative age classes are maintained through timber harvest. After stands are harvested and regenerated, they must grow through stages of vegetative development to become mature forests. As the forest changes structure, wildlife species inhabiting the forest change. When the total Forest is considered, there will be an ever-changing mosaic of different vegetative structures. The inherent diversity caused by geology and topography is enhanced by the diversity created by timber harvest, fire, disease, and insects. All alternatives and benchmarks provide diverse habitats, with the high timber output alternatives having more early seral stage area and less old growth than the lower timber output alternatives.

## 6. Fish

Fish habitat potential is the measured area (square meters) of suitable rearing habitat for fish expressed as a percent of biological potential. Biological potential refers to the maximum possible output of either resident fish or anadromous smolts limited only by inherent physical and biological habitat characteristics. Current, improved, or decreased habitat potential refers to changes in biological potential due to Forest management activities. The term has forest, major drainage, or specific stream application.

Resident trout and anadromous smolt habitat potential vary from existing potential for all alternatives, as shown in Figures II-5 and II-6. These changes are due to excess sediment yields which adversely affect both spawning and rearing habitat for both groups of fish.

The anadromous smolt habitat capability index used in the Forest planning process was based on the best available information and coordinated with state fish and game agencies, Indian Tribes, and through consultation with the Northwest Power Planning Council's Production Advisory Committee. The index can be adjusted as new and better information becomes available. During the Plan period, the Forest will schedule and conduct stream habitat surveys on all anadromous fish-bearing streams on the Forest. As required, the smolt habitat

capability index will be revised, based on rearing habitat capability and density coefficients derived from the site specific studies or rearing habitat coefficients agreed to by fisheries and land management agencies within the Columbia Basin. Future habitat assessment survey procedures will be standardized and coordinated among Regions to provide a standard set of information to use in Forest Plan implementation.

Figures II-5 and II-6 show fish populations planned for the first decade, and projected for the fifth and fifteenth decades. Table II-9 shows anadromous smolt habitat capability for Alternative A (current direction), Alternative D (low), Alternative B (high), and Alternative G (Preferred Alternative) for decades 1 and 3. The degree to which habitat potential is affected is a function of the roading and logging activity, the amount of wilderness or unroaded area proposed, and the fisheries/water quality objectives set for each alternative (see Table II-10). Biological potential is 423,000 for resident trout habitat and 821,000 for anadromous fish habitat.

Figure II-5  
Resident Trout Habitat Capability (Planned - Decade 1, Projected - Decades 5, 15)  
(Thousand Fish)

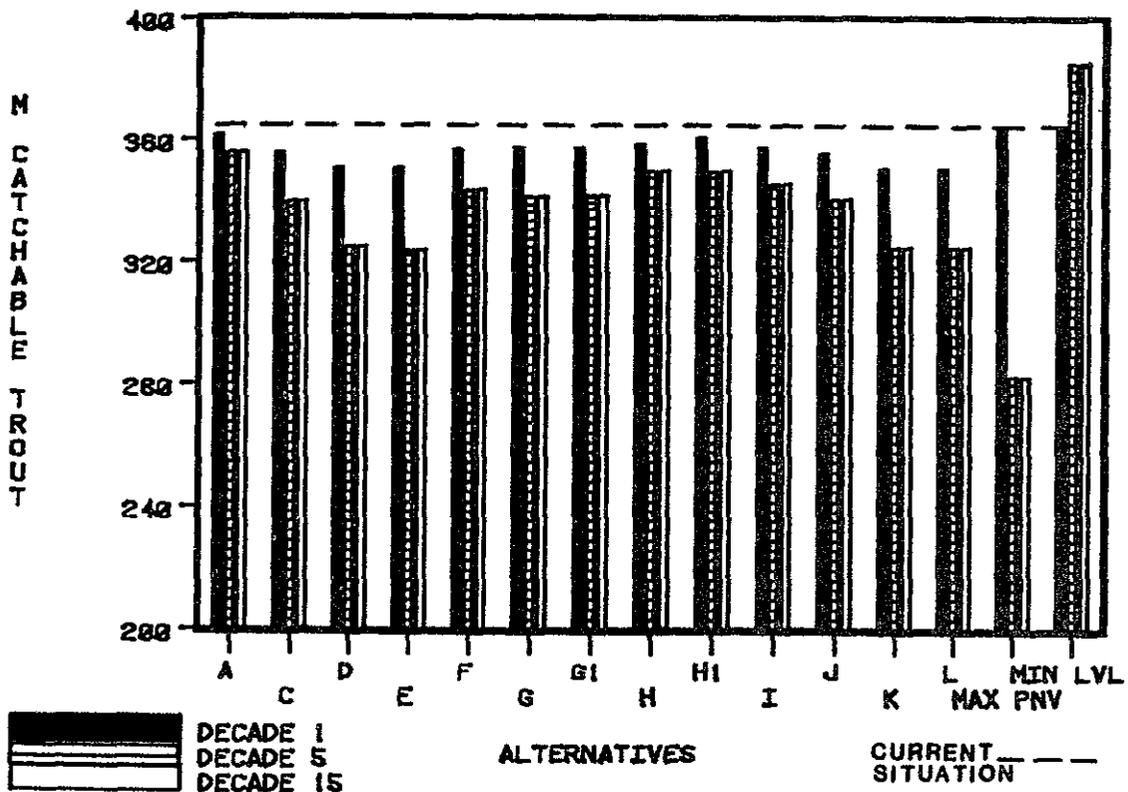


Figure II-6  
 Anadromous Fish Habitat Capability (Planned in Decade 1, Projected in Later  
 Decades)  
 (Thousand Smolts)

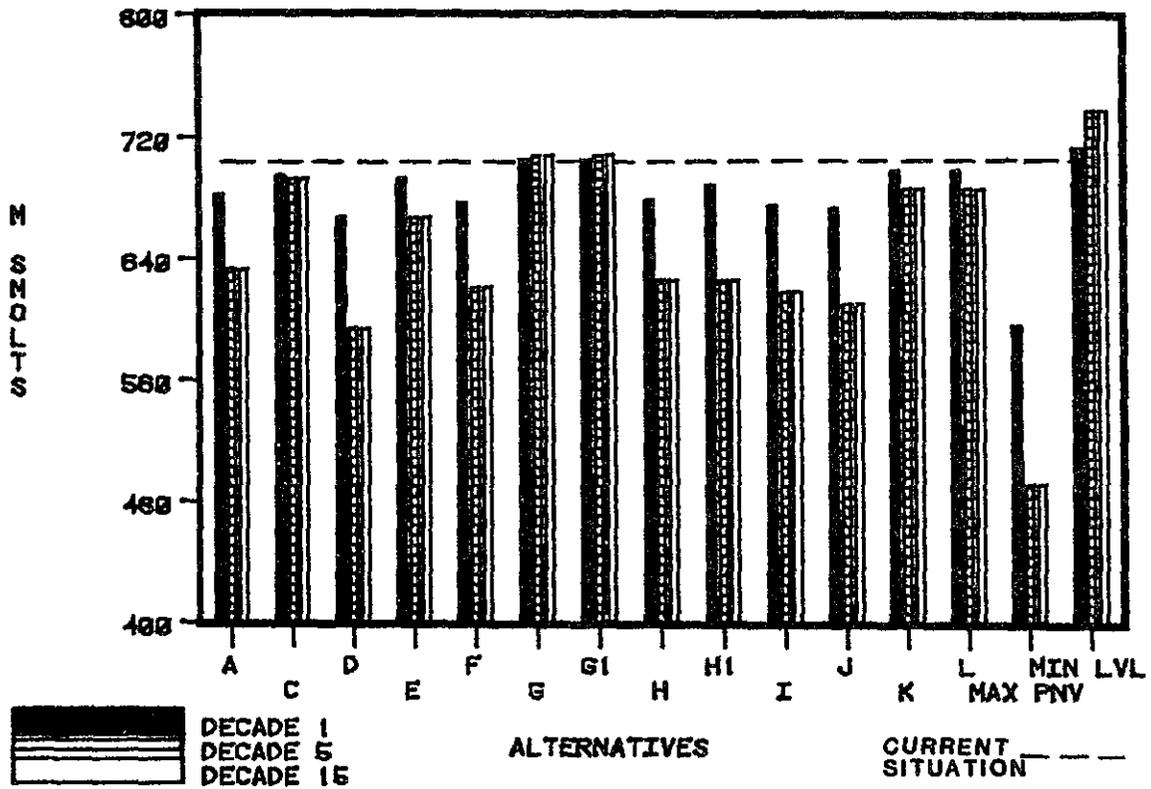


Table II-9

Total Smolt Production for Steelhead Trout and Chinook Salmon - Planned in Decade 1, Projected in Decade 3 (Smolts)

	Alternative A (Current Direction)	Alternative D	Alternative B	Alternative G (Preferred Alternative)
<u>DECADE 1</u>				
Chinook	414,000	394,400	416,000	411,600
Steelhead	291,000	273,300	297,000	294,500
<u>DECADE 3</u>				
Chinook	414,000	355,200	418,000	406,800
Steelhead	291,000	238,500	304,000	301,500

All alternatives are based on the application of best management practices to insure that State water quality standards are met. The effects of sediment production will be evaluated, watershed by watershed, during project development (implementation) to ensure compliance with State water quality standards to protect beneficial uses.

Table II-10 gives the fishery/water quality objectives by alternative.

**Table II-10**  
**Forest Fishery/Water Quality Objectives by Alternative**

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	BENEFICIAL USE	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)										
				A	C	D	E	F	G,G1	H,H1	I	J	K,L	
17060207-01-19	LOWER WIND RIVER	A	100	70	90	70	90	70	90	70	70	70	90	
20	BULLION CREEK	--	--	70	70	70	70	70	70	70	70	70	70	
21	WITSHER CREEK	--	--	70	70	70	70	70	70	70	70	70	70	
22	SCOTT CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
23	SAND CREEK	R	70	70	70	70	80	70	70	70	70	70	70	
24	MEADOW CREEK	A	100	70	90	70	90	70	90	70	70	70	90	
25	WEST FORK MEADOW CREEK	R	70	70	70	70	80	70	70	70	70	70	70	
26	EAST FORK MEADOW CREEK	R	70	70	70	70	80	70	70	70	70	70	70	
17060207-02-01	UPPER BIG CREEK	R	50	100	80	70	80	70	70	70	70	70	70	
02	UPPER CROOKED CREEK	R	50	100	80	70	80	70	70	70	70	70	70	
03	LOWER BIG CREEK	R	100	70	80	70	80	70	70	70	70	70	70	
08	UPPER INDIAN CREEK	R	100	70	100	70	80	100	70	70	70	70	70	
09	MOCCASIN CREEK	--	--	70	100	70	80	100	70	70	70	70	70	
10	UNNAMED NO. 10	--	--	70	100	70	80	100	70	70	70	70	70	
11	UNNAMED NO. 11	--	--	70	100	70	80	100	70	70	70	70	70	
12	LOWER INDIAN CREEK	R	100	70	100	70	80	100	70	70	70	70	70	
13	COUGAR CREEK	--	--	70	100	70	80	100	70	70	70	70	70	
14	RATTLESNAKE CREEK	--	--	70	100	70	70	100	70	70	70	70	70	
32	MCGUIRE CREEK	R	100	100	80	70	80	70	70	70	70	70	70	
17060207-03-01	NOBLE CREEK	R	80	70	100	70	80	100	80	70	70	70	80	
02	GROUSE CREEK	R	100	70	100	70	80	100	70	100	100	100	70	
03	JACK CREEK	R	100	70	100	70	80	100	70	100	100	100	70	
04	MIDDLE BIG MALLARD CREEK	R	100	70	100	70	80	100	80	100	100	100	80	
05	UPPER BIG MALLARD CREEK	R	100	70	100	70	80	100	70	100	100	100	70	
06	SOUTH FORK BIG MALLARD	R	100	70	100	70	80	100	70	100	100	100	70	
07	BAT CREEK	R	100	70	100	70	80	100	70	100	100	100	70	
09	LOWER BIG MALLARD CREEK	A	90	70	100	70	90	100	90	100	100	100	90	
10	LITTLE MALLARD CREEK	A	90	70	100	70	90	100	90	100	100	100	90	
11	ELKHORN CREEK	R	100	70	100	70	80	100	70	100	100	100	70	
14	RABBIT CREEK	A	100	70	100	70	90	100	90	100	100	100	90	
15	UPPER RHETT CREEK	R	90	70	100	70	80	100	80	100	100	100	80	
16	LOWER RHETT CREEK	A	100	70	100	70	90	100	80	100	100	100	80	
17	BLOWOUT CREEK	R	100	70	100	70	80	100	70	100	100	100	70	

<sup>1/</sup> All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

Table II-10 (continued)  
Forest Fishery/Water Quality Objectives by Alternative

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	BENEFICIAL USE	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)										
				A	C	D	E	F	G,G1	H,H1	I	J	K,L	
17060207-03-18	PAINE CREEK	--	--	70	100	70	70	100	70	100	100	100	70	
19	BOISE CREEK	--	--	70	100	70	70	100	70	100	100	100	70	
20	NO MAN'S CREEK	--	--	70	100	70	70	100	70	100	100	100	70	
21	TEPEE CREEK	--	--	70	100	70	80	100	70	100	100	100	70	
22	JERSEY CREEK	R	100	70	100	70	80	100	80	100	100	100	80	
23	COVE CREEK	R	100	70	100	70	80	100	70	100	100	100	70	
17060207-04-01	GREEN MOUNTAIN CREEK	R	100	70	100	70	90	100	100	100	100	100	100	
02	UPPER BARGAMIN CREEK	R	100	70	100	70	90	100	100	100	100	100	100	
03	HOT SPRINGS CREEK	R	100	70	100	70	90	100	100	100	100	100	100	
04	POET CREEK	R	100	70	100	70	90	100	100	100	100	100	100	
20	MYERS CREEK	R	100	70	100	70	90	100	70	100	100	100	70	
27	PORCUPINE CREEK	R	100	70	100	70	90	100	100	100	100	100	100	
28	UNNAMED NO. 28	R	100	70	100	70	90	100	100	100	100	100	100	
29	UNNAMED NO. 29	R	100	70	100	70	90	100	100	100	100	100	100	
30	UP-MIDDLE BARGAMIN CREEK	A	100	70	100	70	90	100	100	100	100	100	100	
17060209-01-01	NORTH FORK WHITE BIRD CREEK	A	90	70	90	80	90	70	90	70	70	70	90	
02	GOOSE CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
03	FISH CREEK	R	90	70	70	70	80	70	70	70	70	70	70	
04	TOLLGATE CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
05	GOODWIN CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
06	PINNACLE CREEK	A	60	70	90	80	90	70	90	70	70	70	90	
07	SOUTH FORK WHITE BIRD CREEK	A	90	70	90	80	90	70	90	70	70	70	90	
08	COLD SPRINGS CREEK	R	70	70	70	70	90	70	70	70	70	70	70	
09	ASBESTOS CREEK	R	70	70	80	70	90	70	70	70	70	70	70	
10	JUNGLE CREEK	R	50	70	70	70	90	70	70	70	70	70	70	
11	LITTLE WHITE BIRD CREEK	A	65	70	80	80	90	70	80	70	70	70	80	
17060209-02-01	NORTH FORK SLATE CREEK	R	80	70	70	70	80	70	70	70	70	70	80	
02	WATERSPOUT CREEK	--	--	70	90	80	90	70	70	70	70	70	70	
03	MAIN SLATE CREEK	A	100	70	90	80	90	70	90	70	70	70	90	
04	LITTLE BOULDER CREEK	R	70	70	80	70	80	70	70	70	70	70	70	
05	LOWER LITTLE SLATE CR.	A	50	70	80	70	90	70	90	70	70	70	90	
06	MIDDLE LITTLE SLATE CR.	A	50	70	80	70	90	70	90	70	70	70	90	
07	UPPER LITTLE SLATE CR.	A	50	70	80	70	90	70	90	70	70	70	90	

<sup>1/</sup> All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

Table 11-10 (continued)  
Forest Fishery/Water Quality Objectives by Alternative

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	BENEFICIAL USE	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)									
				A	C	D	E	F	G,G1	H,H1	I	J	K,L
17060209-02-08	TURNBULL CREEK	A	50	70	80	70	90	70	80	70	70	70	80
09	VAN BUREN CREEK	A	70	70	80	70	90	70	90	70	70	70	90
10	DEADHORSE CREEK	--	--	70	80	70	80	70	70	70	70	70	70
11	LITTLE VAN BUREN CREEK	--	--	70	90	70	90	70	70	70	70	70	70
12	BEAR GULCH CREEK	--	--	70	70	70	80	70	70	70	70	70	70
13	NO BUSINESS CREEK	--	--	70	90	80	90	70	70	70	70	70	70
14	MCKENZIE CREEK	--	--	70	80	80	80	70	70	70	70	70	70
15	SOUTH FORK SKOOKUMCHUCK CR.	A	100	70	80	80	90	70	80	70	70	70	80
16	NORTH FORK SKOOKUMCHUCK CR.	A	90	70	80	80	90	70	80	70	70	70	80
17	WILLOW CREEK	--	--	70	90	80	90	70	70	70	70	70	70
18	TROUGH CREEK	--	--	70	90	80	90	70	70	70	70	70	70
19	HURLEY CREEK	--	--	70	90	80	90	70	70	70	70	70	70
20	SLIDE CREEK	--	--	70	90	80	90	70	70	70	70	70	70
21	RUBIE CREEK	A	80	70	90	80	90	70	80	70	70	70	80
22	LOWER MAIN SLATE CREEK	A	100	70	90	80	90	70	90	70	70	70	90
17060209-03-01	EAST FORK JOHN DAY CREEK	R	70	70	80	70	90	70	70	100	70	70	70
02	MIDDLE FORK JOHN DAY CREEK	R	70	70	80	70	90	70	70	100	70	70	70
03	ALLISON CREEK	A	85	70	80	70	90	70	80	70	70	70	80
04	VAN CREEK	R	70	70	70	70	90	70	70	70	70	70	70
05	KELLY CREEK	R	70	70	70	70	80	70	70	70	70	70	70
06	ROBBINS CREEK	--	--	70	70	70	80	70	70	70	70	70	70
07	SMITH CANYON CREEK	--	--	70	70	70	80	70	70	70	70	70	70
08	GASPER CREEK	--	--	70	70	70	80	70	70	70	70	70	70
09	FLOCK CREEK	--	--	70	70	70	80	70	70	70	70	70	70
10	CHAMBERLIN GULCH	--	--	70	70	70	80	70	70	70	70	70	70
11	SPRING CREEK	--	--	70	70	70	80	70	70	70	70	70	70
12	WEST FORK ALLISON CREEK	A	85	70	70	70	90	70	80	70	70	70	80
13	PLANT CREEK	--	--	70	70	70	70	70	70	70	70	70	70
14	GUS CREEK	--	--	70	70	70	80	70	70	70	70	70	70
16	BERG CREEK	--	--	70	70	70	90	70	70	70	70	70	70
17	LITTLE BERG CREEK	--	--	70	70	70	80	70	70	70	70	70	70
18	LIGHTNING CREEK	--	--	70	70	70	80	70	70	70	70	70	70
19	CHAIR CREEK	--	--	70	70	70	80	70	70	70	70	70	70

<sup>1</sup>/ All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

Table II-10 (continued)  
Forest Fishery/Water Quality Objectives by Alternative

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	BENEFICIAL USE	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)										
				A	C	D	E	F	G,G1	H,H1	I	J	K,L	
17060209-03-20	FIDDLE CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
21	SHEEP GULCH	--	--	70	70	70	80	70	70	70	70	70	70	
23	SOUTH FORK JOHN DAY CREEK	R	100	70	90	70	90	70	70	100	70	70	70	
17060209-04-01	DEER CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
02	JOE CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
03	CHRISTIE CREEK	R	70	70	70	70	80	70	70	70	70	70	70	
04	SHERWIN CREEK	R	70	70	70	70	80	70	70	70	70	70	70	
05	CHINA CREEK	R	70	70	70	70	80	70	70	70	70	70	70	
06	COW CREEK	R	70	70	70	70	80	70	80	70	70	70	80	
07	KESSLER CREEK	A	70	70	70	70	90	70	80	70	70	70	80	
08	SOUTH FORK RACE CREEK	A	50	70	70	70	90	70	80	70	70	70	80	
09	WEST FORK RACE CREEK	A	70	70	70	70	90	70	80	70	70	70	80	
17060210-01-01	SQUAW CREEK	R	40	70	70	70	80	70	80	70	70	70	80	
02	SHINGLE CREEK	R	50	70	100	70	80	100	80	70	70	70	80	
03	RAPID RIVER	A	100	100	100	80	90	100	100	100	100	100	100	
04	INDIAN CREEK	R	50	70	70	70	80	70	70	70	70	70	70	
05	WEST FORK RAPID RIVER	A	100	100	100	80	90	100	100	100	100	100	100	
06	PAPOOSE CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
17060301-01-07	PATROL CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
08	LOWER RUNNING CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
09	LYNX CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
10	SOUTH FORK RUNNING CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
11	MIDDLE RUNNING CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
12	WARM SPRINGS CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
13	TOM CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
14	UPPER RUNNING CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
17060302-01-01	ROAR CREEK	--	--	100	100	70	80	100	70	100	100	100	70	
02	JOHNSON CREEK	--	--	100	100	70	80	100	70	100	100	100	70	
03	ROCK CREEK	--	--	100	100	70	80	100	70	100	100	100	70	
04	RACKLIFF CREEK	A	85	100	100	70	80	100	90	100	100	100	90	
05	NINETEEN MILE CREEK	R	100	100	100	70	80	100	90	100	100	100	90	
06	SLIDE CREEK	--	--	100	100	70	80	100	70	100	100	100	70	
07	BOYD CREEK	R	100	100	100	70	80	100	90	100	100	100	90	

<sup>1/</sup> All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

Table 11-10 (continued)  
Forest Fishery/Water Quality Objectives by Alternative

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	BENEFICIAL USE	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)									
				A	C	D	E	F	G,G1	H,H1	I	J	K,L
17060302-01-08	TWENTYTHREEMILE CREEK	--	--	100	100	70	80	100	70	100	100	100	70
09	CACHE CREEK	--	--	100	100	70	80	100	70	100	100	100	70
10	GLOVER CREEK	A	100	100	100	70	90	100	90	100	100	100	90
11	UNNAMED NO. 11	--	--	100	70	70	70	70	70	70	70	70	70
12	FALLS CREEK	R	100	70	80	70	90	70	80	70	70	70	80
13	SOB CREEK	R	85	70	70	70	80	70	70	100	70	70	70
14	YOUNG CREEK	--	--	100	70	70	80	70	70	100	70	70	70
15	WASH CREEK	--	--	100	70	70	70	70	70	100	70	70	70
16	ISLAND CREEK	R	100	70	70	70	80	70	70	100	70	70	70
17	SADDLE CREEK	A	100	70	80	70	90	70	90	70	70	70	90
18	WART CREEK	A	70	70	80	70	90	70	90	70	70	70	90
19	WEST FORK O'HARA CREEK	A	90	70	80	70	90	70	90	70	70	70	90
20	HAMBY CREEK	A	70	70	80	70	90	70	90	70	70	70	90
21	LOWER O'HARA CREEK	A	70	70	80	80	90	70	90	70	70	70	90
22	GODDARD CREEK	R	70	70	80	80	80	70	80	70	70	70	80
23	ELK CITY CREEK	--	--	70	70	80	80	70	70	70	70	70	70
24	SWIFTWATER CREEK	R	100	70	70	80	80	70	80	70	70	70	80
26	FERN CREEK	--	--	100	70	80	70	70	70	100	70	70	70
27	DAYE CREEK	--	--	100	70	80	70	70	70	100	70	70	70
28	EAST FORK O'HARA CREEK	A	90	70	80	80	90	70	90	70	70	70	90
17060302-02-01	LOWER MEADOW CREEK	A	100	70	100	80	90	70	90	100	100	100	90
02	INDIAN HILL CREEK	A	100	70	100	80	90	100	100	100	100	100	100
03	COPPER CREEK	A	100	70	100	80	90	100	100	100	100	100	100
04	LITTLE COPPER CREEK	A	100	70	100	80	90	100	100	100	100	100	100
06	LOWER BUCK LAKE CREEK	A	100	70	100	80	90	100	100	100	100	100	100
07	DISGRACE CREEK	A	100	70	100	80	90	100	100	100	100	100	100
08	VERMILLION CREEK	R	100	70	100	80	90	100	100	100	100	100	100
09	SCHWAR CREEK	A	100	70	100	80	90	100	100	100	100	100	100
10	EAST FORK MEADOW CREEK	A	100	70	100	80	90	100	100	100	100	100	100
11	UPPER MEADOW CREEK	A	100	70	100	80	90	100	100	100	100	100	100
12	THREE PRONG CREEK	A	100	70	100	80	90	100	100	100	100	100	100
13	CABIN CREEK	A	100	70	100	80	90	100	100	100	100	100	100
14	TOP MEADOW CREEK	R	100	70	100	80	90	70	90	100	100	100	90

<sup>1/</sup> All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

**Table II-10 (continued)**  
**Forest Fishery/Water Quality Objectives by Alternative**

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	BENEFICIAL USE	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)										
				A	C	D	E	F	G,G1	H,H1	I	J	K,L	
17060302-02-15	BUTTER CREEK	A	100	70	90	80	90	70	90	100	100	100	90	
16	SABLE CREEK	A	100	70	90	80	90	70	90	100	100	100	90	
17	MATTESON CREEK	R	100	70	90	80	90	70	90	100	100	100	90	
18	TAMARACK CREEK	R	100	70	90	80	90	70	90	100	100	100	90	
19	MIDDLE MEADOW CREEK	A	100	70	100	80	90	100	100	100	100	100	100	
20	SIMMONS CREEK	A	100	70	90	80	90	70	90	100	100	100	90	
21	BUTTE CREEK	A	100	70	90	80	90	70	90	100	100	100	90	
22	ANDERSON CREEK	A	100	70	90	80	90	70	90	100	100	100	90	
23	DENT CREEK	R	100	70	90	80	90	70	90	100	100	100	90	
24	LITTLE BOULDER CREEK	A	100	70	90	80	90	70	90	100	100	100	90	
25	FIVEMILE CREEK	R	100	70	90	80	90	70	90	100	100	100	90	
26	HORSE CREEK	R	90	70	80	80	90	70	80	70	70	70	80	
27	UNNAMED NO. 27	--	--	70	70	80	80	70	70	70	70	70	70	
28	UNNAMED NO. 28	--	--	70	70	80	80	70	70	70	70	70	70	
17060302-03-23	UNNAMED NO. 23	--	--	70	100	70	70	100	70	70	70	70	70	
24	RACE CREEK	--	--	100	100	70	70	100	70	70	70	70	70	
25	LOWER GEDNEY CREEK	A	100	100	100	80	90	100	90	70	70	70	90	
26	WEST FORK GEDNEY CREEK	A	100	100	100	80	90	100	90	70	70	70	90	
29	UPPER GEDNEY CREEK	A	100	100	100	80	90	100	90	70	70	70	90	
30	PACKER CREEK	--	--	100	100	70	70	100	70	70	70	70	70	
32	RENSHAW CREEK	--	--	100	100	70	90	100	70	70	70	70	70	
35	CUPBOARD CREEK	--	--	100	100	70	90	100	70	70	70	70	70	
17060304-06-01	PINE KNOB CREEK	A	50	70	80	70	90	70	80	70	70	70	80	
02	LITTLE TINKER CREEK	A	90	70	70	70	80	70	80	100	70	70	80	
03	TAHOE CREEK	--	--	70	70	70	70	70	70	100	70	70	70	
04	NUMBER ONE CREEK	--	--	70	70	70	70	70	70	100	70	70	70	
05	UNNAMED NO. 5	--	--	70	70	70	70	70	70	100	70	70	70	
06	UNNAMED NO. 6	R	100	70	70	70	80	70	70	100	70	70	70	
07	LODGE CREEK	R	65	70	70	70	80	70	70	100	70	70	70	
08	UNNAMED NO. 8	--	--	70	70	70	70	70	70	100	70	70	70	
09	DECKER CREEK	--	--	70	70	70	70	70	70	100	70	70	70	
10	BROWNS SPRING CREEK	A	50	70	80	70	90	70	80	70	70	70	80	
11	CLEAR CREEK	A	50	70	80	70	90	70	90	70	70	70	90	

<sup>1</sup>/ All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous      MW = Municipal Watershed  
R = Resident        -- = No Fishery

Table 11-10 (continued)  
Forest Fishery/Water Quality Objectives by Alternative

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	BENEFICIAL USE	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)									
				A	C	D	E	F	G,G1	H,H1	I	J	K,L
17060304-06-12	SOLO CREEK	A	70	70	80	70	90	70	80	70	70	70	80
13	MIDDLE FORK CLEAR CR.	A	50	70	80	70	90	70	90	100	70	70	90
14	KAY CREEK	A	60	70	80	70	90	70	80	100	70	70	80
15	SOUTH FORK CLEAR CR.	A	50	70	80	70	90	70	80	70	70	70	80
16	HOODOO CREEK	A	50	70	80	70	90	70	70	70	70	70	70
17060305-01-01	LOWER JOHNS CREEK	A	100	70	90	80	90	70	90	70	70	70	90
02	MIDDLE JOHNS CREEK	A	100	70	90	80	90	70	90	70	70	70	90
03	FRANK BROWN CREEK	A	100	70	90	80	90	70	90	70	70	70	90
12	UPPER MILL CREEK	R	90	70	70	70	80	70	70	70	70	70	70
13	TROUT CREEK	R	100	70	90	70	90	70	70	70	70	70	70
14	MERTON CREEK	--	--	70	70	70	80	70	70	70	70	70	70
15	AMERICAN CREEK	R	70	70	90	70	90	70	70	70	70	70	70
16	LOWER MILL CREEK	A	100	70	80	80	90	70	80	70	70	70	80
17	DEER CREEK	R	50	70	90	70	90	70	70	70	70	70	70
18	BIG CANYON CREEK	A	90	70	80	80	90	70	80	70	70	70	80
19	DRY GULCH	--	--	70	70	80	80	70	70	70	70	70	70
20	GROUSE CREEK	--	--	70	70	80	90	70	70	70	70	70	70
21	BIVOUAC CREEK	--	--	70	70	80	70	70	70	70	70	70	70
22	JUNGLE CREEK	--	--	70	70	80	70	70	70	70	70	70	70
23	BULLY CREEK	--	--	70	70	80	80	70	70	70	70	70	70
24	DUMP CREEK	--	--	70	70	80	80	70	70	70	70	70	70
25	COVE CREEK	--	--	70	70	80	80	70	70	70	70	70	70
26	GILMORE CREEK	A	100	70	90	80	90	70	90	70	70	70	90
27	BASIN CREEK	A	100	70	90	80	90	70	90	70	70	70	90
28	SNOOSE CREEK	A	100	70	90	80	90	70	90	70	70	70	90
29	SOURDOUGH CREEK	A	100	70	90	80	90	70	90	70	70	70	90
30	UNNAMED NO. 30	A	100	70	90	80	90	70	90	70	70	70	90
17060305-02-01	RABBIT CREEK	--	--	70	70	80	80	70	70	70	70	70	70
02	RAINY DAY CREEK	--	--	70	70	80	80	70	70	70	70	70	70
03	LOWER TENMILE CREEK	A	90	70	90	80	90	70	90	70	70	70	90
04	BUCKHORN CREEK	R	60	70	70	70	80	70	70	70	70	70	70
05	SANTIAM CREEK	R	50	70	70	70	80	70	70	70	70	70	70

<sup>1/</sup> All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

Table II-10 (continued)  
Forest Fishery/Water Quality Objectives by Alternative

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	CURRENT FISHERY HABITAT BENEFICIAL USE	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)									
				A	C	D	E	F	G,G1	H,H1	I	J	K,L
17060305-02-06	SIXMILE CREEK	A	50	70	90	80	90	70	90	70	70	70	90
09	UPPER TWENTYMILE CREEK	R	100	70	90	70	80	70	80	70	70	70	80
10	MORGAN CREEK	A	100	70	90	80	90	70	90	70	70	70	90
11	LOWER TWENTYMILE CREEK	R	100	70	90	80	80	70	80	70	70	70	80
12	WEST FORK TWENTYMILE CREEK	R	100	70	90	80	80	70	80	70	70	70	80
13	WING CREEK	R	100	70	70	80	80	70	70	70	70	70	70
14	HUDDLESON CREEK	--	--	70	70	80	80	70	70	70	70	70	70
15	OTTER CREEK	--	--	70	70	80	80	70	70	70	70	70	70
16	UNNAMED NO. 16	--	--	70	70	80	70	70	70	70	70	70	70
17060305-03-01	LOWER CROOKED RIVER	A	50	70	90	80	90	70	90	70	70	70	90
03	RELIEF CREEK	A	60	70	90	80	90	70	90	70	70	70	90
04	MIDDLE CROOKED RIVER	A	90	70	90	80	90	70	90	70	70	70	90
05	UPPER CROOKED RIVER	A	90	70	90	80	90	70	90	70	70	70	90
06	WEST FORK CROOKED RIVER	A	90	70	90	80	90	70	90	70	70	70	90
17060305-04-01	DAW CREEK	A	50	70	90	70	90	70	70	70	70	70	70
02	LOWER RED RIVER	A	50	70	90	80	90	70	90	70	70	70	90
03	SIEGEL CREEK	A	60	70	90	80	90	70	90	70	70	70	90
04 <sup>a</sup>	DITCH CREEK	A	50	70	100	80	90	70	90	70	70	70	90
05 <sup>a</sup>	TRAIL CREEK	A	50	70	100	80	90	70	90	70	70	70	90
06	OTTERSON CREEK	A	100	70	100	80	90	70	90	100	100	70	90
07 <sup>a</sup>	BRIDGE CREEK	A	70	70	100	80	90	70	90	100	100	70	90
08 <sup>a</sup>	UPPER MAIN RED RIVER	A	70	70	100	80	90	70	90	70	70	70	90
09 <sup>a</sup>	BASTON CREEK	A	80	70	100	80	90	100	90	70	70	70	90
10 <sup>a</sup>	SODA CREEK	A	60	70	100	80	90	100	90	70	70	70	90
11 <sup>a</sup>	MAIN RED RIVER	A	50	70	100	80	90	100	90	70	70	70	90
12	SCHOONER CREEK	R	50	70	90	80	90	70	80	70	70	70	80
13	TRAPPER CREEK	A	50	70	90	80	90	70	90	70	70	70	90
14	PAT BRENNAN CREEK	R	70	70	90	80	90	70	70	70	70	70	70
15	LOWER SOUTH FORK RED R.	A	50	70	90	80	90	70	90	70	70	70	90
16	UPPER SOUTH FORK RED R.	A	50	70	90	80	90	70	80	70	70	70	80
17	MIDDLE FORK RED RIVER	A	55	70	90	80	90	70	80	70	70	70	80

<sup>1/</sup> All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

<sup>a/</sup> These streams are the Forest's priority drainages. Habitat improvement projects have been underway since 1980. Full habitat carrying capacity is expected by 1990. Streams involved are in the Newsome and Red River systems. Management-derived sediment which could affect fish habitat will not be allowed until monitoring indicates habitat has recovered to planned levels.

Table 11-10 (continued)  
Forest Fishery/Water Quality Objectives by Alternative

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	BENEFICIAL USE	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)										
				A	C	D	E	F	G,G1	H,H1	I	J	K,L	
17060305-04-18	WEST FORK RED RIVER	A	60	70	90	80	90	70	90	70	70	70	90	
19	MOOSE BUTTE CREEK	A	50	70	90	80	90	70	90	70	70	70	90	
20	LITTLE MOOSE CREEK	R	70	70	90	80	90	70	70	70	70	70	70	
21	BLANCO CREEK	--	--	70	90	80	90	70	70	70	70	70	70	
22	DEADWOOD CREEK	R	40	70	70	70	80	70	70	70	70	70	70	
23	RED HORSE CREEK	A	50	70	70	70	80	70	90	70	70	70	90	
24	FRENCH GULCH	--	--	70	70	70	80	70	70	70	70	70	70	
25	CAMPBELL CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
17060305-05-01	WHISKEY CREEK	R	45	70	80	70	80	70	70	70	70	70	70	
03	BUFFALO GULCH	R	40	70	80	70	70	70	70	70	70	70	70	
04	BIG ELK CREEK	MW	80	70	80	80	90	70	90	70	70	70	90	
05	LITTLE ELK CREEK	MW	50	70	80	80	90	70	90	70	70	70	90	
06	AMERICAN RIVER	A	50	70	80	80	90	70	90	70	70	70	90	
07	WEST FORK AMERICAN R.	A	50	70	80	80	90	70	90	70	70	70	90	
08	LICK CREEK	A	50	70	80	80	90	70	90	100	100	70	90	
09	UPPER AMERICAN RIVER	A	60	70	80	80	90	70	90	100	100	70	90	
10	EAST FORK AMERICAN R.	A	60	70	80	80	90	70	90	70	70	70	90	
11	KIRKS FORK	A	50	70	80	80	90	70	90	70	70	70	90	
12	WHITAKER CREEK	R	70	70	80	80	90	70	70	70	70	70	70	
13	QUEEN CREEK	R	70	70	80	80	90	70	70	70	70	70	70	
14	FLINT CREEK	A	40	70	80	80	90	70	90	70	70	70	90	
15	BOX SING CREEK	R	70	70	80	80	90	70	70	70	70	70	70	
17060305-06-01 <sup>a</sup>	UPPER NEWSOME CREEK	A	50	70	100	80	90	100	90	70	70	70	90	
02 <sup>a</sup>	MULE CREEK	A	80	70	100	80	90	100	90	70	70	70	90	
03 <sup>a</sup>	NUGGETT CREEK	A	50	70	100	80	90	100	90	70	70	70	90	
04 <sup>a</sup>	BEAR CREEK	A	50	70	100	80	90	100	90	70	70	70	90	
05	DUTCH OVEN CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
06	MOOSE CREEK	R	50	70	70	70	80	70	70	70	70	70	70	
07	ALLISON CREEK	--	--	70	70	70	80	70	70	70	70	70	70	
08 <sup>a</sup>	LOWER NEWSOME CREEK	A	50	70	100	80	90	100	90	70	70	70	90	
09	LEGGETT CREEK	A	50	70	80	80	90	70	80	70	70	70	80	

1/ All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

a/ These streams are the Forest's priority drainages. Habitat Improvement projects have been underway since 1980. Full habitat carrying capacity is expected by 1990. Streams involved are in the Newsome and Red River systems. Management-derived sediment which could affect fish habitat will not be allowed until monitoring indicates habitat has recovered to planned levels.

Table II-10 (continued)  
Forest Fishery/Water Quality Objectives by Alternative

PRESCRIPTION WATERSHED NUMBER	PRESCRIPTION WATERSHED NAME	CURRENT FISHERY HABITAT POTENTIAL <sup>1</sup> (PERCENT)	FISHERY/WATER QUALITY OBJECTIVE BY ALTERNATIVE (PERCENT HABITAT POTENTIAL)										
			BENEFICIAL USE	A	C	D	E	F	G,G1	H,H1	I	J	K,L
17060305-06-10	FALL CREEK	A	70	70	80	80	90	70	80	70	70	70	80
11	REED CREEK	R	100	70	70	70	80	70	70	70	70	70	70
12	DROOGS CREEK	--	--	70	70	70	80	70	70	70	70	70	70
13	SURVEYOR CREEK	--	--	70	70	70	80	70	70	70	70	70	70
14	LOWER SILVER CREEK	R	100	70	80	70	80	70	80	70	70	70	80
15	UPPER SILVER CREEK	R	100	70	100	70	80	70	100	100	70	70	90
16 <sup>a</sup>	WEST FORK NEWSOME CREEK	A	90	70	100	80	90	100	90	70	70	70	90
17 <sup>a</sup>	SING LEE CREEK	A	50	70	100	80	90	100	90	70	70	70	90
18	SAWMILL CREEK	A	100	70	100	80	90	100	90	100	70	70	90
19 <sup>a</sup>	PILOT CREEK	A	50	70	100	80	90	100	90	100	70	70	90
20 <sup>a</sup>	BALDY CREEK	A	50	70	100	80	90	100	90	70	70	70	90
21 <sup>a</sup>	HAYSFORK CREEK	A	50	70	100	80	90	100	90	70	70	70	90
22 <sup>a</sup>	BEAVER CREEK	A	80	70	100	80	90	100	90	70	70	70	90
17060305-07-01	GREEN CREEK	A	50	70	70	70	80	70	70	70	70	70	70
02	SEARS CREEK	--	--	70	70	70	70	70	70	70	70	70	70
03	WALL CREEK	MW	--	70	90	70	90	70	90	70	70	70	90
04	NORTH MEADOW CREEK	A	50	70	80	70	90	70	70	70	70	70	70
05	UPPER MEADOW CREEK	A	70	70	80	70	90	70	70	70	70	70	70
06	PEASLEY CREEK	A	50	70	80	70	90	70	70	70	70	70	70
07	GRANITE CREEK	--	--	70	70	70	70	70	70	70	70	70	70
08	COUGAR CREEK	R	45	70	70	70	80	70	70	70	70	70	70
09	RALPH SMITH CREEK	--	--	70	70	70	70	70	70	70	70	70	70
10	WICKIUP CREEK	--	--	70	70	70	70	70	70	70	70	70	70
11	LOWER MEADOW CREEK	A	60	70	80	70	90	70	80	70	70	70	80
12	BROWNS CREEK	--	--	70	70	70	70	70	70	70	70	70	70
13	CASTLE CREEK	--	--	70	70	70	70	70	70	70	70	70	70
14	NELSON CREEK	--	--	70	70	70	70	70	70	70	70	70	70
15	SHEEP CREEK	--	--	70	70	70	70	70	70	70	70	70	70
16	EARTHQUAKE CREEK	--	--	70	70	70	70	70	70	70	70	70	70
17	COVERT CREEK	--	--	70	80	70	80	70	70	70	70	70	70
18	SCHWARTZ CREEK	--	--	70	70	70	80	70	70	70	70	70	70
19	MIDDLE MEADOW CREEK	A	50	70	80	70	90	70	80	70	70	70	80
20	LIGHTNING CREEK	A	50	70	70	70	80	70	80	70	70	70	80

<sup>1/</sup> All objectives are relative to full biological potential of 100 percent. Due to varied productivity of each stream, the annual production per unit of habitat will also vary.

A = Anadromous  
R = Resident

MW = Municipal Watershed  
-- = No Fishery

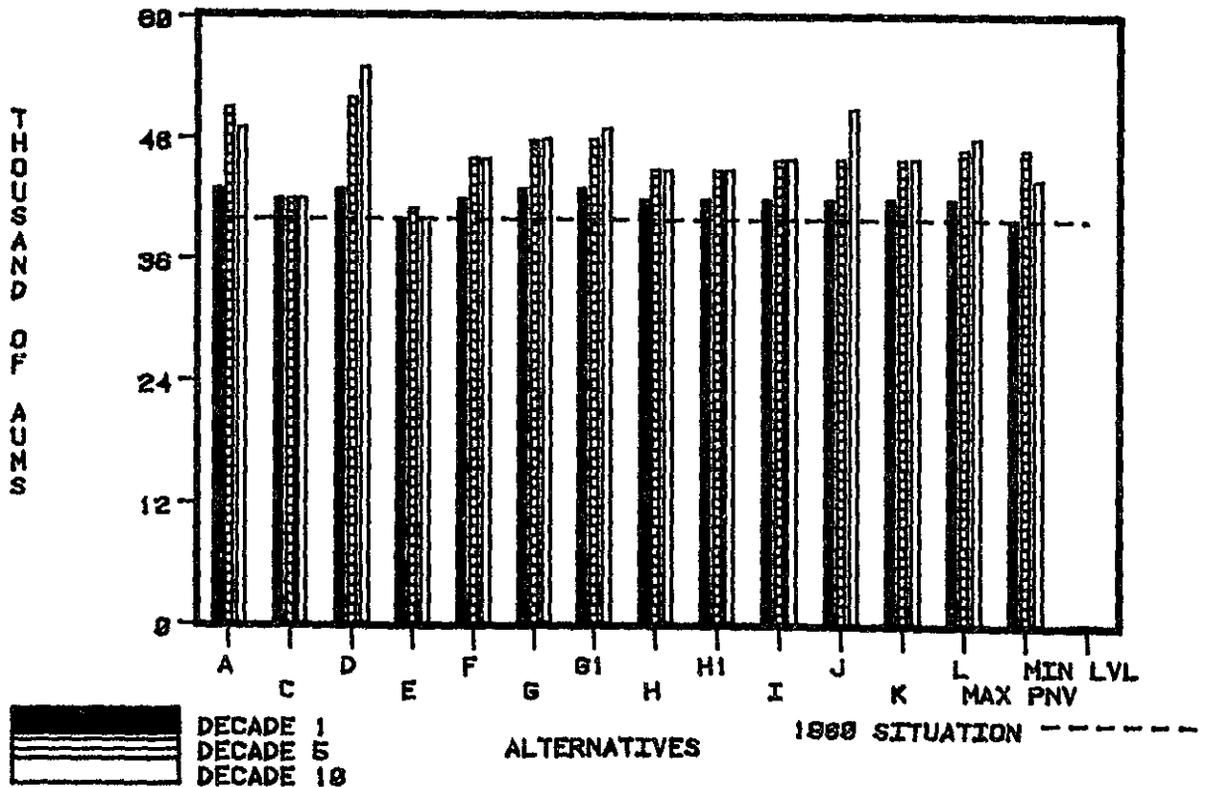
<sup>a/</sup> These streams are the Forest's priority drainages. Habitat improvement projects have been underway since 1980. Full habitat carrying capacity is expected by 1990. Streams involved are in the Newsome and Red River systems. Management-derived sediment which could affect fish habitat will not be allowed until monitoring indicates habitat has recovered to planned levels.

7. Range

Since primary range on the Forest is now considered fully stocked, any increases in future livestock grazing will be attributed to timber harvest creating additional forage. Consequently, there is a close relationship between range outputs and the amount of timber harvested. Exceptions to this relationship are in alternatives with high fish and wildlife emphasis.

Livestock forage potential in AUMs is displayed in Figure II-7. It shows forage production for livestock use to be high under Alternatives A, D, G, and J, with D the highest. All of these high output alternatives will require close coordination between tree regeneration and livestock grazing. All alternatives have the potential to increase livestock grazing above current levels except Alternative E.

Figure II-7  
Potential Livestock Forage (Planned in Decade 1, Projected in Later Decades)  
(Thousand AUMs)



8. Timber Harvest

Harvest volumes and schedules were calculated by the FORPLAN computer model. Cubic foot volumes scheduled for harvest in decades 1, and projected for harvest in decades 5 and 10 are shown in Figure II-8 and board foot volumes for the same periods are displayed in Figure II-9. The conversion ratio of cubic feet to board feet varies with the size of trees harvested.

Figure II-8  
Average Annual Timber Harvest (Planned in Decade 1, Projected in Later Decades)  
(Million Cubic Feet)

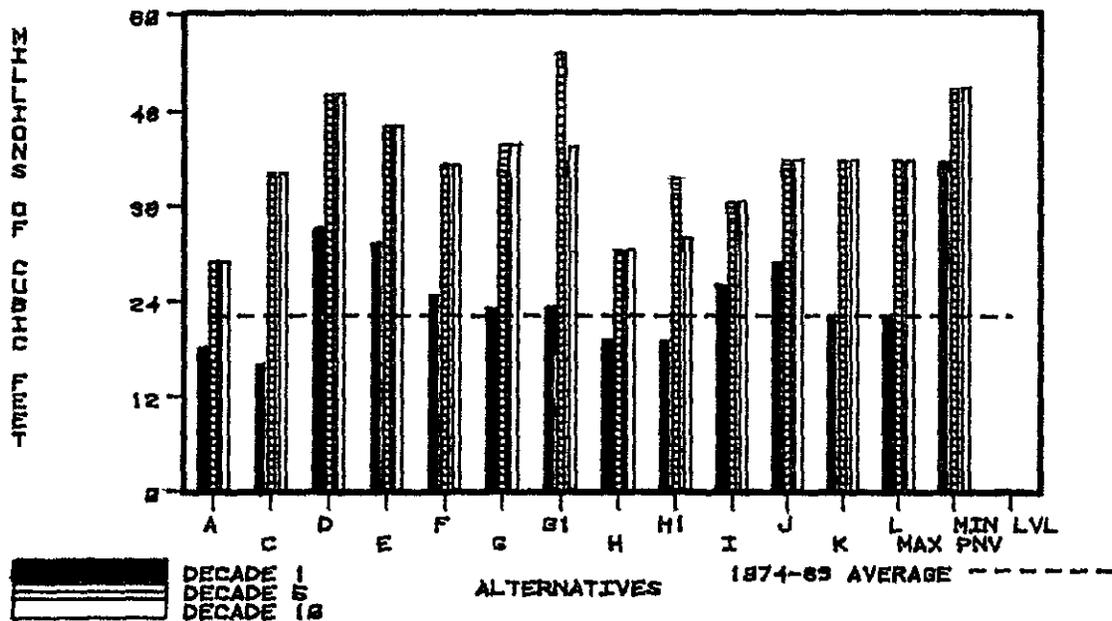
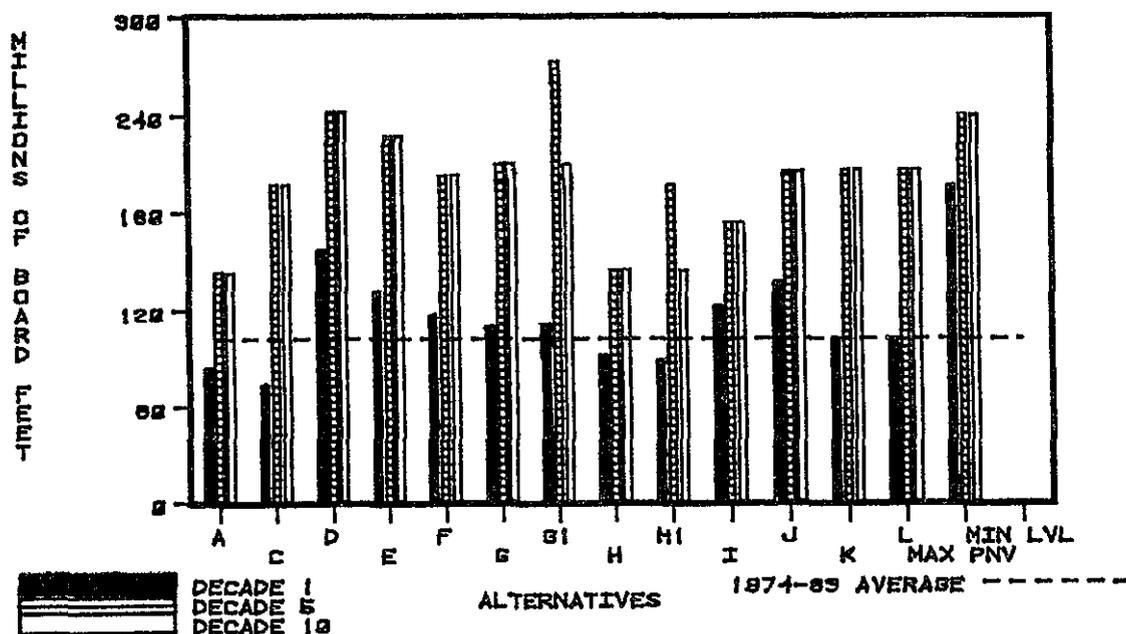


Figure II-9  
Average Annual Timber Harvest (Planned in Decade 1, Projected in Later Decades)  
(Million Board Feet)



In response to timber industry concerns, the Forest Service completed a study of various timber supply scenarios for the state of Idaho based on ownership categories. Included in these supply scenarios were the harvest levels of the draft preferred alternatives of National Forests within the State of Idaho. The major findings of this study for Northern Idaho indicated that the timber supply is adequate for the next 10 years (1988-1997). This is based on the planned harvest levels of the Preferred Alternatives from the three Northern Idaho National Forests (Idaho Panhandle, Clearwater, and Nez Perce) and the continuation of the historic harvest level of the other timber ownerships. Depending on corporate objectives and policies, the harvest levels from private industrial lands may begin to decline during this period, but planned harvest levels from National Forests and harvest levels of other ownerships can offset this decline.

A supply and demand analysis for the Nez Perce National Forest was completed using information developed from the "Report on Idaho's Timber Supply" study and demand projections based on work done for the 1980 Resource Planning Act Assessment (Adams and Haynes, 1980).

A range of potential demand for the Nez Perce National Forest timber was developed from this statewide study by comparing the expected quantity supplied and demanded with a range of possible future harvests from other ownerships. This range of potential demands was then compared directly with planned harvest

levels of the Preferred Alternative for this National Forest. The Idaho Timber Supply study was subdivided into two marketing areas. The Nez Perce National Forest is in the Northern Idaho sub-state region. The range of potential demand for the Northern Idaho area and a range of possible supplies from other owners is shown in Table II-11.

Table II-11  
Range of Potential Demand and Range of Supplies  
(MMBF/Year)

	Planned	Projected			
	1988- 1997	1998- 2007	2008- 2017	2018- 2027	2028- 2037
North Idaho Range of Potential Demand	1284 1215	1476 1232	1550 1241	1566 1362	1572 1550
Range of Potential Supply from Other Owners	834 776	662 607	680 564	576 542	562 532

From the above information, an implied range of potential demand for National Forest timber in Northern Idaho can be obtained and is shown in Table II-12:

Table II-12  
Range of Potential Demand  
(MMBF/Year)

	Planned	Projected			
	1988- 1997	1998- 2007	2008- 2017	2018- 2027	2028- 2037
Range of Potential National Forest Demand	508 381	869 625	986 561	1024 786	1040 988

It is significant to note that as regional and national markets imply an increase in the quantity demanded for Northern Idaho, other timber ownerships will have a decreasing ability to provide timber, largely due to depleted

inventory in industrial ownerships. This would mean that the potential demand on National Forest timber can be expected to increase.

There is no mathematical model at the present which can be used to disaggregate the range of potential demand for Northern Idaho to a specific National Forest. Therefore, it is assumed that future demand ranges for each National Forest will be proportional to its market share in Northern Idaho. This is based on the total planned harvest levels of the National Forests within this market area. The range of potential demand for the Nez Perce National Forest timber using this disaggregation method is shown in Table II-13:

Table II-13  
Range of Potential Demand and Forest Plan Harvest Level  
(MMBF/Year)

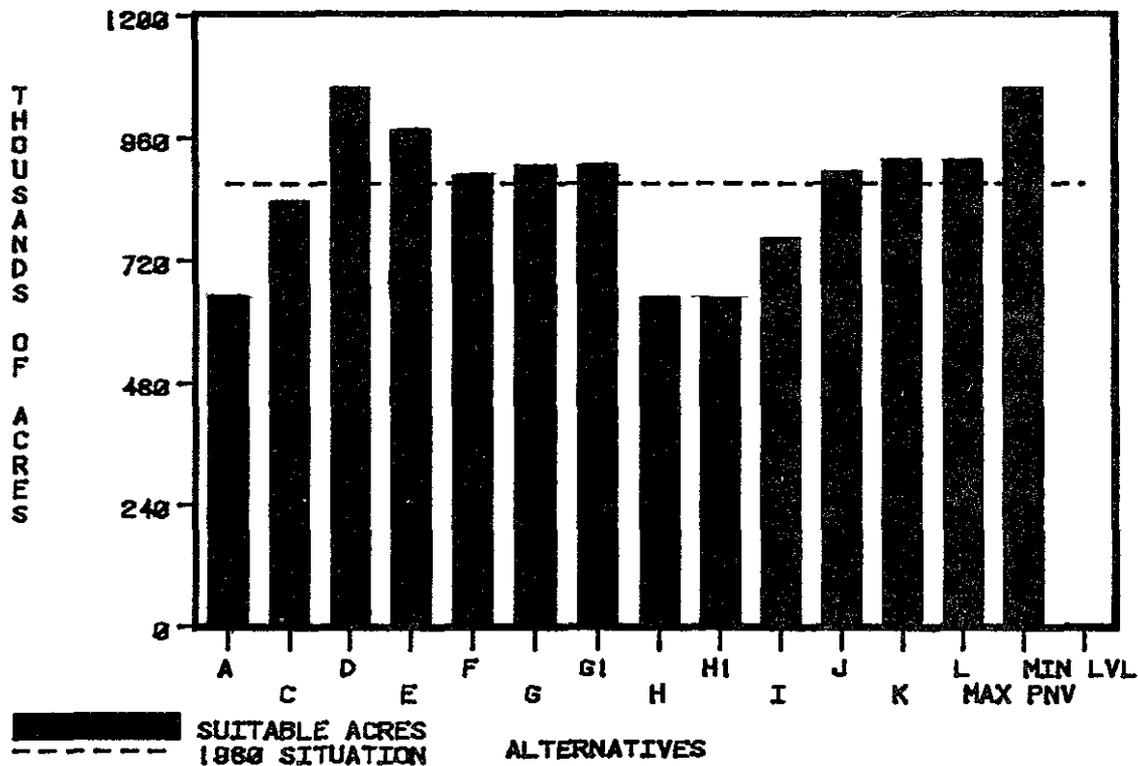
	Planned	Projected			
	1988- 1997	1998- 2007	2008- 2017	2018- 2027	2028- 2037
Range of Potential Demand for Nez Perce National Forest	103 77	180 118	254 145	241 185	228 217
Nez Perce National Forest Plan Harvest Level	108	138	180	210	210

By comparing planned harvest levels from the Nez Perce National Forest with the Range of Potential Demand for this National Forest, it can be seen that the planned harvest is approximately within the Range of Potential Demand. For the Plan period, the harvest level is slightly above the upper bound in the Range of Potential Demand (5%), and for the fifth decade, the harvest level is slightly below the lower bound in this potential range.

It is important that the information on potential supply and demand be considered only as a reference point. A range of potential demand levels for individual National Forests is dependent on the supply assumptions for other ownerships and adjacent National Forests. Based on these assumptions, the proper interpretation of the demand projections is that they provide a reasonable range, not an absolute floor or ceiling for any specific National Forest. The difference between the upper and lower range of these projections indicates the additional timber that could reasonably be marketed. This does not preclude the consideration of specific alternatives with an allowable sale quantity (ASQ) in excess of the upper and lower end of the potential demand range at projected price levels.

All nonclassified land managed by the Forest was tested for suitability for production of timber by applying the criteria discussed in Appendix B, section II. Tentatively suitable timberlands were assigned to prescriptions that meet the management objectives of a given alternative. High timber output alternatives have the most acreage assigned to timber production, as shown in Figure II-10. As emphasis shifts from producing timber to maintaining high quality fishery and wildlife habitat and establishing wilderness, the acreage assigned to timber production decreases.

Figure II-10  
 Suitable Timberland  
 (Thousand Acres)



During the review of the Proposed Forest Plan and Draft Environmental Impact Statement, it was discovered that 64 drainages, out of 350 Forestwide, had lower objectives than the Idaho Department of Fish and Game as stated in their "Anadromous Fisheries Management Plan, 1985-1990". An analysis was completed to estimate the impacts of increasing the objectives in those drainages where there were differences with the Idaho Department of Fish and Game.

Initially this caused the allowable sale quantity of timber to decrease to 880 million board feet during the Plan period (from 1,020 million board feet) with

a resultant adverse impact on the local economy. Through additional analysis, it was found that much of the loss in timber volume could be mitigated by increasing sediment mitigation practices so that more sediment, predicted to result from road construction, would be mitigated.

By increasing the sediment mitigation levels in Alternative G (Preferred Alternative) and G1, in 24 key drainages it was possible to increase the allowable sale quantity of timber to 1,020 million board feet during the Plan period while increasing the fish/water quality objectives to be consistent with the Idaho Department of Fish and Game's objectives. This will result in higher road costs in some areas.

During the review of the proposed Forest Plan and draft Environmental Impact Statement it was brought out that a part of the wood products available for harvest on the Forest were not included in the calculation of the allowable sale quantity (ASQ). Included in this category is green timber that does not meet minimum size and/or soundness utilization standards for sawlogs and salvageable dead trees resulting from endemic insect and disease mortality on suitable lands. Depending on market conditions, this timber has been utilized for pulpwood, roofing shakes, fence posts and other non-lumber wood products.

Some volume of this type of wood would be available for harvest in the first decade under all alternatives. The amount would primarily be a function of the total acres scheduled for harvest during the first decade and the acres of accessible, suitable lands. Table II-14 displays, by alternative, (1) the regular sawtimber component of the ASQ, (2) the potential additional products component, and (3) the total potential ASQ for each alternative including both components.

Table II-14  
ASQ Components  
(MMBF)

Alternative	A	C	D	E	F	G	G1	H	H1	I	J	K	L	MAX PNV
Sawtimber Component	84	74	157	127	116	103	106	94	89	123	137	102	102	196
Product Component	4	4	7	9	5	5	5	5	6	6	6	5	5	8
Total ASQ	88	78	164	126	121	108	111	99	95	129	143	107	107	204

The additional component of ASQ described above would be a non-interchangeable component of the total ASQ; it could not be interchanged or substituted with any volume in the regular sawtimber component.

All alternatives reflect revised utilization standards that were prescribed for use in the Northern Regional Guide. The results of an analysis of the volume and economic value impacts of converting from the current utilization standards to those in the Regional Guide are shown in Table II-15 and Table II-16 for the Preferred Alternative.

**Table II-15**  
**Comparison of Current vs. Regional Guide Utilization Standards**

Standard	Minimum D.B.H.		Minimum top D.I.B.	Minimum Piece Length
	Lodgepole Pine	All Other Species	All Species	All Species
Current	7"	8"	5.6"	8'
Proposed	6"	7"	4.6"	8'

Two analyses were done to determine the effects of changing timber utilization standards from the current measurements to the proposed measurements as shown in Table II-15. The two alternatives used were the maximum PNV Alternative and Alternative G, the Preferred Alternative. Table II-16 displays the results of these analyses. The outputs that are compared are the timber volumes in the first planning period and the total PNV of each alternative. The number of suitable acres is also compared for the maximum PNV alternative.

**Table II-16**  
**Comparison of Timber Volume (MCF and MBF), Present Net Value, and Acres Assigned to Timber Between the Current and Regional Guide Utilization Standards.**

Item	Current Standards	Proposed Standards	Difference	% Change
<u>Max PNV Benchmark</u>				
MMCF (1st Decade)	41.0	41.7	0.7	1.7
MMBF (1st Decade)	195	196	1	0.5
PNV Million \$	1,111	1,119	8	0.7
Acres Assigned To Timber	1,058,734	1,058,734	0	0
<u>Preferred Alternative</u>				
MMCF (1st Decade)	21.2	21.5	0.3	1.3
MMBF (1st Decade)	99.7	100	1	0.3
PNV Million \$	958	975	17	1.7

Timber outputs, both cubic feet and board feet, showed slight increases as a result of implementing the proposed utilization standards. Since the proposed standards could increase the total number of merchantable trees on a given plot of land (lowered minimum diameters) and increase the merchantable volume per

tree (reduced minimum top diameters), increased volume was expected. The magnitude of the change is slight, however, and on the average no significant gains in volume result from the changing utilization standards. Depending on the size, species, and stand structure, however, the differences between the two utilization standards could be more significant on individual stands or harvest units than the averages indicate.

PNV also increases slightly as a result of the proposed standards and can be directly attributed to corresponding increases in merchantable timber volume. In the maximum PNV alternative, the acres of suitable lands do not change as a result of varying the utilization standards which indicates that the changes in volume per acres are not significant enough to affect the determination of land suitability.

The percentage change in volume resulting from the current and proposed utilization standards is shown in Tables II-17 through II-20. These tables display the volume distribution by acre and indicate how the proposed standards may impact timber harvest. Data on actual changes in volume per acre are available in the planning records. The tables are based on a relatively small sample of individual stands and the estimate for any specific diameter or species combination is likely to vary widely from the volume ultimately harvested.

The most obvious impact of the proposed utilization standards on the harvest level is an increase in the merchantable volume in trees less than 8 inches diameter at 4.5 feet above the ground. This impact is not significant since under the proposed standards only 1.2 percent of the merchantable board foot volume of the average stand would be found in trees with less than an 8-inch diameter.

Following are the species codes used in Tables II-17 through II-20:

WP - White Pine	LPP - Lodgepole Pine
WL - Western Larch	ES - Engelmann Spruce
DF - Douglas-Fir	AF - Subalpine Fir
GF - Grand Fir	PP - Ponderosa Pine
HE - Hemlock	OTH - Other species (commercial hardwoods, whitebark pine)
C - Cedar	

**Table 11-17**  
**Current Utilization Standards - Board Foot Volume Per Acre - Decade 1**  
**(Percent)**

DIAMETER	Species											
	WP	WL	DF	GF	HE	C	LPP	ES	AF	PP	OTH	ALL
6.0-6.9	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
7.0-7.9	.000	.000	.000	.000	.000	.000	.042	.000	.000	.000	.000	.042
8.0-8.9	.000	.052	.058	.572	.000	.000	.128	.052	.107	.005	.000	.972
9.0-9.9	.000	.142	.065	.802	.000	.000	.455	.162	.155	.002	.000	1.780
10.0-10.9	.000	.195	.166	1.246	.000	.000	1.140	.141	.163	.003	.000	3.053
11.0-11.9	.000	.309	.148	1.756	.000	.000	1.331	.159	.147	.026	.000	3.875
12.0-12.9	.000	.229	.661	1.963	.000	.000	1.524	.090	.261	.042	.000	4.770
13.0-13.9	.000	.302	.405	1.248	.000	.000	1.357	.184	.205	.002	.002	3.703
14.0-14.9	.000	.239	.873	1.289	.000	.000	1.806	.306	.191	.007	.027	4.736
15.0-15.9	.000	.156	1.502	1.785	.000	.000	1.448	.404	.279	.029	.033	5.636
16.0-16.9	.000	.385	1.169	1.538	.000	.000	.783	.471	.360	.064	.009	4.777
17.0-17.9	.000	.497	1.067	1.918	.000	.000	.505	.508	.371	.054	.000	4.917
18.0-19.9	.000	.529	1.655	3.577	.000	.000	.336	1.977	.726	.212	.000	9.011
20.0-20.9	.000	.195	1.779	4.358	.000	.000	.188	1.196	.529	.220	.000	8.463
22.0-23.9	.000	.462	1.740	2.498	.000	.000	.017	1.296	.258	.226	.000	6.495
24.0-25.9	.000	.568	1.251	2.291	.000	.000	.000	1.808	.162	.181	.000	6.260
26.0-27.9	.000	.058	1.816	2.440	.000	.000	.000	1.455	.077	.053	.000	5.898
28.0-29.9	.000	.001	1.163	2.348	.000	.000	.000	1.844	.023	.160	.000	5.538
30.0 +	.000	1.988	3.629	10.697	.000	.000	.000	3.211	.109	.419	.000	20.051
TOTAL	.000	6.306	19.145	42.329	.000	.000	11.060	15.264	4.124	1.702	.072	100.000

**Table 11-18**  
**Proposed Utilization Standards - Board Foot Volume Per Acre - Decade 1**  
**(Percent)**

DIAMETER	Species											
	WP	WL	DF	GF	HE	C	LPP	ES	AF	PP	OTH	ALL
6.0-6.9	.000	.000	.000	.000	.000	.000	.049	.000	.000	.000	.000	.048
7.0-7.9	.000	.059	.078	.698	.000	.000	.059	.123	.133	.025	.000	1.174
8.0-8.9	.000	.059	.080	.681	.000	.000	.139	.068	.148	.007	.000	1.182
9.0-9.9	.000	.152	.112	.888	.000	.000	.463	.180	.227	.002	.000	2.024
10.0-10.9	.000	.200	.468	1.267	.000	.000	.976	.150	.199	.003	.000	3.261
11.0-11.9	.000	.307	.393	1.634	.000	.000	1.193	.161	.180	.027	.000	3.894
12.0-12.9	.000	.232	.420	1.875	.000	.000	1.298	.090	.293	.042	.000	4.247
13.0-13.9	.000	.300	.392	1.182	.000	.000	1.224	.181	.234	.002	.002	3.516
14.0-14.9	.000	.232	.766	1.208	.000	.000	1.490	.299	.189	.007	.027	4.217
15.0-15.9	.000	.152	1.196	1.672	.000	.000	1.362	.388	.293	.029	.033	5.122
16.0-16.9	.000	.367	.869	1.358	.000	.000	.690	.455	.361	.062	.009	4.170
17.0-17.9	.000	.468	.828	1.754	.000	.000	.360	.488	.361	.052	.000	4.310
18.0-19.9	.000	.502	1.394	3.645	.000	.000	.283	1.895	.703	.206	.000	8.627
20.0-20.9	.000	.186	1.499	4.405	.000	.000	.217	1.158	.512	.206	.000	8.181
22.0-23.9	.000	.424	1.783	2.594	.000	.000	.024	1.247	.250	.211	.000	6.532
24.0-25.9	.000	.519	1.330	2.131	.000	.000	.005	1.712	.157	.170	.000	6.022
26.0-27.9	.000	.052	1.976	2.295	.000	.000	.000	1.369	.075	.051	.000	5.816
28.0-29.9	.000	.001	1.087	2.306	.000	.000	.000	1.720	.022	.155	.000	5.289
30.0 +	.000	1.887	3.389	11.765	.000	1.788	.000	3.007	.105	.404	.000	22.343
TOTAL	.000	6.100	18.060	43.357	.000	1.788	9.832	14.692	4.440	1.661	.071	100.000

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

**Table 11-19**  
**Current Utilization Standards - Board Foot Volume Per Acre - Decade 5**  
**(Percent)**

DIAMETER	Species											
	WP	WL	DF	GF	HE	C	LPP	ES	AF	PP	OTH	ALL
6.0-6.9	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
7.0-7.9	.000	.000	.000	.000	.000	.000	.098	.000	.000	.000	.000	.097
8.0-8.9	.000	.094	.147	1.129	.000	.000	.020	.026	.000	.068	.000	1.484
9.0-9.9	.000	.054	.079	.999	.000	.000	.003	.033	.000	.058	.000	1.224
10.0-10.9	.000	.134	.195	.954	.000	.000	.038	.328	.000	.140	.000	1.789
11.0-11.9	.000	.139	.881	1.503	.000	.000	.506	.181	.000	.038	.000	3.247
12.0-12.9	.000	.227	.561	1.503	.000	.000	.963	.701	.000	.049	.000	4.004
13.0-13.9	.000	.281	.137	2.018	.000	.000	1.427	.399	.000	.092	.000	4.352
14.0-14.9	.000	.348	.790	1.545	.000	.000	1.192	.175	.000	.006	.000	4.056
15.0-15.9	.000	.382	.731	1.357	.000	.000	.880	.402	.003	.000	.000	3.754
16.0-16.9	.000	.235	.598	1.038	.000	.000	.876	.228	.030	.000	.000	3.003
17.0-17.9	.000	.272	.846	1.641	.000	.000	.647	.550	.038	.049	.000	4.043
18.0-19.9	.000	.893	1.233	3.524	.000	.000	.490	.620	.421	.162	.000	7.341
20.0-20.9	.000	.715	1.624	5.043	.000	.000	.090	.864	.424	.239	.000	8.997
22.0-23.9	.000	.226	2.006	4.725	.000	.000	.008	1.982	.239	.179	.000	9.363
24.0-25.9	.000	.211	1.401	3.002	.000	.000	.002	1.892	.219	.149	.000	6.873
26.0-27.9	.000	.126	1.471	2.277	.000	.000	.000	1.391	.159	.385	.000	5.810
28.0-29.9	.000	.050	1.846	1.919	.000	.000	.000	1.746	.007	.098	.000	5.665
30.0 +	.000	1.932	5.419	11.286	.000	.000	.000	5.213	.155	.879	.000	24.882
TOTAL	.000	6.319	19.965	45.463	.000	.000	7.241	16.730	1.693	2.590	.000	100.000

**Table 11-20**  
**Proposed Utilization Standards - Board Foot Volume Per Acre - Decade 5**  
**(Percent)**

DIAMETER	Species											
	WP	WL	DF	GF	HE	C	LPP	ES	AF	PP	OTH	ALL
6.0-6.9	.000	.000	.000	.000	.000	.000	.238	.000	.000	.000	.000	.237
7.0-7.9	.000	.034	.208	.549	.000	.000	.140	.026	.017	.037	.000	1.011
8.0-8.9	.000	.113	.191	1.448	.000	.000	.023	.036	.016	.092	.000	1.917
9.0-9.9	.000	.059	.092	1.132	.000	.000	.004	.043	.028	.069	.000	1.426
10.0-10.9	.000	.141	.213	1.028	.000	.000	.038	.365	.014	.158	.000	1.956
11.0-11.9	.000	.142	.939	1.560	.000	.000	.490	.185	.006	.042	.000	3.363
12.0-12.9	.000	.225	.586	1.505	.000	.000	.884	.703	.010	.050	.000	3.963
13.0-13.9	.000	.275	.133	1.976	.000	.000	1.370	.396	.049	.091	.000	4.290
14.0-14.9	.000	.342	.798	1.452	.000	.000	1.139	.174	.006	.006	.000	3.916
15.0-15.9	.000	.374	.848	1.298	.000	.000	.794	.395	.027	.000	.000	3.736
16.0-16.9	.000	.230	.501	.987	.000	.000	.812	.223	.030	.000	.000	2.781
17.0-17.9	.000	.264	.735	1.556	.000	.000	.613	.537	.063	.048	.000	3.814
18.0-19.9	.000	.863	1.305	3.331	.000	.000	.436	.598	.417	.157	.000	7.106
20.0-20.9	.000	.686	1.547	4.858	.000	.000	.084	.825	.426	.232	.000	8.657
22.0-23.9	.000	.219	1.942	4.604	.000	.000	.008	1.920	.232	.173	.000	9.097
24.0-25.9	.000	.194	1.389	3.009	.000	.000	.002	1.833	.212	.139	.000	6.777
26.0-27.9	.000	.112	1.382	2.205	.000	.000	.000	1.348	.155	.369	.000	5.570
28.0-29.9	.000	.044	1.844	1.816	.000	.000	.000	1.685	.006	.095	.000	5.536
30.0 +	.000	1.856	5.301	11.191	.000	.563	.000	4.920	.150	.850	.000	24.829
TOTAL	.000	6.174	19.954	45.549	.000	.563	7.076	16.214	1.865	2.607	.000	100.000

In addition to variations in timber outputs among alternatives, such as suitable acres, first decade harvest level, and acres scheduled for harvests, other long-term aspects of timber management also vary by alternative that can have significant impacts on long-term management. Included in this category are total inventory volumes at the beginning of the planning horizon and at the end of the planning horizon, growth rates at various points in time during the planning horizon, and how these growth and inventory figures change in relation to planned harvest levels. Table II-21 displays some of these outputs and relationships by alternative. Following the table is an analysis and discussion of the relationships displayed.

**Table II-21**  
**Timber Inventory and Growth**

Alt.	Acres Suitable Land	Inventory Vol-Initial Land	Vol./Acre Init. MCF	End. Inventory Vol. MMCF	ASQ 1st Dec. MMCF	ASQ 1st Dec. (% of Inven.)	ASQ 1st Dec. MMBF	LTSYC MMCF	LTSYC (% of End. Inven.)	Decade ASQ = or > LTSYC	Average Annual Net Growth Acre-Initial	Average Annual Net Growth In Year 2030	Total Net Growth 2030
MAX													
PNV	1056136	5388.282	5.1	2302.495	41.7	7.7	196	50.5	22	2	41.87	19.70	208.106
D	1056136	5451.749	5.2	2178.877	33.3	6.1	157	50.2	23	3	34.79	19.25	302.247
E	973974	5119.122	5.3	2451.657	31.6	6.2	127	46.4	19	3	39.18	17.96	174.973
K	925140	4686.575	5.1	2123.581	21.6	4.3	102	42.6	20	4	27.50	17.47	163.800
L	925140	4681.375	5.1	2123.581	21.6	4.3	102	42.6	20	4	27.50	17.47	164.260
G	911669	4773.117	5.2	2164.821	22.1	4.6	108	43.5	20	4	28.36	17.50	159.587
G1	911669	4773.117	5.2	1997.683	22.7	4.7	111	43.5	22	4	28.36	17.50	159.420
J	896047	4686.811	5.2	1830.553	28.9	6.2	137	42.5	23	3	34.91	19.71	135.280
F	889903	4691.230	5.3	2127.683	25.6	5.5	116	42.7	20	2	28.66	17.08	159.078
C	837122	4452.512	5.3	2066.735	16.3	3.7	74	40.4	20	3	30.19	17.66	147.801
I	763632	4011.257	5.3	1680.952	25.9	6.5	123	36.4	22	2	35.51	20.11	140.360
A	657263	3674.111	5.6	1897.264	17.6	4.8	83.6	30.5	16	2	28.34	18.24	119.861
H	655117	3442.853	5.3	1496.116	19.8	5.8	94	31.1	21	2	40.35	20.19	132.29
H1	655117	3447.154	5.3	1511.585	19.8	5.8	94	31.1	21	2	41.77	21.60	133.390

The suitable acres in column 1 reflect the difference in acreage assignments between alternatives. With few exceptions, the total suitable acres are a function of the amount of area designated as proposed wilderness, or areas to remain roadless to maintain high fisheries/water quality, roadless recreation opportunities, and wildlife habitat. To a lesser extent, specific land assignments to protect riparian areas and moose winter range also affect the suitable acres. Alternatives H, I, J, K, and L reflect varying amounts of roadless areas proposed as additional wilderness, with H proposing all roadless areas for

addition to the wilderness system. Alternative D and the max PNV run, emphasize maximum output of priced commodities and, therefore, the greatest suitable acres. The other alternative range is between Alternative D and Alternative H, depending on the specific objectives for fish, recreation, and wildlife.

The inventory values in column 2, generally vary directly with the suitable area available for timber management in each alternative. Alternatives with more proposed wilderness or roadless areas (and therefore less suitable timber acres) start with lower timber inventories. The volume per acre varies only slightly among the alternatives. The volume per acre is highest in Alternative A. This is because alternative A is constrained to current budget levels, which in turn limit the levels of timber management that can be achieved. As a result, many areas with lower volumes of standing timber are classified as unsuitable for timber management.

The ending inventory volumes (column 4) are a reflection of the suitable area and also the projected rate of harvest over the 150-year planning horizon. Multiple-use constraints, designed to assure that non-timber resources meet the objectives of the alternative, are a significant factor affecting the level of timber harvest schedules. Harvest flow constraints, primarily non-declining yield, also play a role in determining the rate of timber harvest over the planning horizon.

The display of Allowable Sale Quantity (ASQ) in columns 5, 6, and 7 of Table II-21, reflect the differences among the alternatives. While the inventory values are primarily a function of the suitable area in each alternative, the ASQs early in the planning horizon reflect the effects of constraints designed to achieve non-timber resource objectives. Limits on the rate of harvests over the first 5 decades are key to achieving the fish/water quality objectives of many of the alternatives. The higher these objectives, the lower the ASQ relative to suitable area and inventory. Alternative C, which emphasizes fish and wildlife values, has the lowest initial ASQ, while Alternative D and Max PNV which meet the minimum fish/water quality objectives have the highest ASQs. These constraints are also reflected in the percent of inventory that is harvested in the first decade. The alternatives with the higher objectives for fish/water quality generally have 5 percent or less of the initial inventory harvested in the first decade, while those alternatives with relatively lower fish/water quality objectives harvest 5 percent or more of the initial inventory in the first decade.

The long-term sustained yield capacity (LTSYC), columns 8-10, reflect the suitable acres and management intensity of the timber harvest prescriptions in the alternatives. The differences in LTSYC vary directly with the suitable acres. The decade when the ASQ equals the LTSYC reflects the level of non-timber resource objectives, primarily fish/water quality, of the alternative.

The total net growth, column 13, varies consistently with the LTSYC and the suitable area of the alternative. The initial growth per acre however, is more varied. This initial growth is a result of the particular productivity class and age of the timber stands included in the suitable area of each alternative.

The selection of these areas is influenced by "hard-wired resource objectives such as proposed wilderness or roadless areas in some alternatives, as well as by a determination of the model as to which lands are most efficient in meeting the objectives of that particular alternative.

Table II-22 displays the reduction in yields per acre as a result of non-timber resource objectives and the acres of regeneration harvest by cutting method for the first decade.

**Table II-22**  
**Timber Yields**

	Full Yield		50-90% Yield		> 50% Yield		Clear Cut	Shelter-wood	Selection	Total
	Acres	%	Acres	%	Acres	%				
Max Timber	885992	84	170144	16	0	0				
Max PNV	885992	84	170144	16	0	0	4417	3747	0	8164
<u>Alternatives</u>										
G	704809	77	206860	23	0	0	1788	2552	0	4340
D	881995	84	174141	16	0	0	3853	2328	0	6181
C	658800	79	178322	21	0	0	984	2267	0	3251
A	523552	80	133711	20	0	0	1243	2454	0	3697
H	575729	88	79388	12	0	0	1613	1988	0	3601
E	795146	82	178828	18	0	0	3163	268	0	3431
G1	704809	77	206860	23	0	0	1788	2762	0	4550
F	712745	80	177158	20	0	0	2624	1781	0	4405
J	750996	84	145051	16	0	0	3712	1396	0	5108
I	645414	85	118268	15	0	0	3392	1508	0	4900
K	756952	82	16838	18	0	0	3270	1230	0	4500
L	746683	81	178457	19	0	0	3589	1396	0	4985
H1	575729	88	79388	12	0	0	1613	2048	0	3661

In general, there is little variation among alternatives in the number of suitable acres with prescriptions that reflect a reduction in timber yields in order to meet non-timber objectives. This is because most of the non-timber objectives in the alternatives were met by limiting the rate of harvesting and/or the suitable acres. Also, many of the objectives were achieved by reducing yields per acre to meet minimum management requirements and were applied to all alternatives.

In Table II-22, the acres with yield reductions of 50-90 percent reflect the acres managed for old-growth-dependent species and the areas of big-game winter range

where low intensity timber management will be practiced. The yield reduction for both of these practices is a result of extending the rotation periods in order to extend the stand cycle during the mature phase (for old growth species) or the regeneration phase (for extended browse production).

The total acres of regeneration harvest vary directly with the ASQ for the first decade. The balance of acres between clearcutting and shelterwood reflect the particular productivity class selected or available for harvest in the first decade as well as the management intensity selected.

The existing Timber Management Plan was developed in 1973 and has been in effect from 1974 to the present. The land classifications and potential yields were revised in 1979 to reflect decisions made as a result of the RARE II process. The potential yield in the original plan was 144.5 MMBF and was revised to 134 MMBF in 1979. The average annual volume sold during the years of 1974-1986 was approximately 85 MMBF. The total suitable acres in the current Timber Management Plan are 985,300. This includes land classes of standard, special, and marginal.

## 9. Silvicultural Systems

Several different silvicultural systems were considered during the formulation of prescriptions and alternatives. Both uneven-aged and even-aged systems were considered.

Silvicultural systems considered for uneven-aged management were individual and group selection. Selection harvesting involves the removal of mature or immature timber at intervals with continuous regeneration that occupies the sites left by the harvested trees. Individual tree selection involves the removal of single trees from a stand while group selection harvest removes small areas of timber over 1/2 to 2 acres. The larger groups resemble small patch clearcuts. The objective of these systems is a stand with trees of different ages and size intermingled throughout individual stands.

The even-aged systems considered were the shelterwood system and clearcutting. In these systems, all trees are removed from the harvest area in 1 to 3 operations over a period of 1 to 20 years. In the shelterwood system, the mature stand is removed in a series of cuts and regeneration is established in the partial shade of the residual overstory that remains after the first entry. The remaining overstory is harvested after the regeneration is established in the overstory. Clearcutting is the harvest of all trees on an area in a single entry. The result of both of these systems is a stand with most trees approximately the same age and similar size.

A cutting method used with both even-aged systems is an intermediate harvest. This involves the removal of selected trees throughout the immature stand to improve the growth, species composition, or value of the stand at final harvest. These harvests are also referred to as commercial thinnings at various places throughout the documentation.

Several factors were considered during the selection of silvicultural systems to be used in the alternatives. They were the silvicultural standards set by the Northern Region Guide, biological factors of the major forest types found on the Nez Perce, and the multiple resource objectives found in the various alternatives.

The Northern Region Guide establishes several standards for silvicultural systems that are considered for implementation in Forest Plans. These standards apply both to even-aged and uneven-aged systems. Briefly, the standards require that the following factors be considered when selecting silvicultural systems.

- Stand conditions required to meet resource objectives established by the Forest Plan.
- The ability to establish an acceptable number of trees growing at acceptable rates.
- Stand conditions that minimize risk of damage from pests, animals, and fire.
- Compatibility with current technology and availability of logging systems.
- Clearcutting will be used only when it is determined to be the optimal system based on biological factors and compatibility with other resource objectives.

In addition to these standards, the following factors are to be considered when evaluating the appropriateness of uneven-aged management.

- The optimal diameter distribution, length of cutting cycle, species mix, and schedule of treatments must be specified.
- Areas to be treated should be at least 5 acres in size so accurate records can be kept.
- Each treatment should produce usable products.
- The affected ecosystem must be able to withstand frequent harvest activities.
- Indigenous tree species must be compatible with an uneven-aged stand structure.

The biological factors of each major forest type on the Nez Perce were also considered when determining which silvicultural systems were compatible with the type of timber stands found on the Forest. One of the significant sources of information in this evaluation was USDA Forest Service Agricultural Handbook No. 445, Silvicultural Systems for the Major Forest Types of the United States. Using the classification system found in this handbook, four major forest types were identified on the Nez Perce that had significant timber resources. They are: mixed conifers, ponderosa pine and Rocky Mountain Douglas-fir, Engelmann spruce-subalpine fir, and lodgepole pine. Based on the research and information in the Agricultural Handbook, either even-aged or uneven-aged systems can be

successfully implemented in any of these four forest types depending on specific stand conditions.

Several biological factors influence the selection of a silvicultural system. Some of these may be common to large areas of similar forest types, but many vary from stand to stand and must be determined by a site-specific evaluation. The factors to be considered are:

- Reproductive habitats and requirements of the desired tree species and any competing vegetation.
- Potential hazards posed by insects, disease, or fire.
- Climatic hazards to the trees: windthrow, frost, snow breakage.
- The size, age, and general vigor of the trees; the overall stand condition.

Timber inventory data from the Nez Perce was evaluated in light of the above concerns. The forest type as well as the specific stand characteristics found locally in these forest types was considered in the selection of silvicultural systems.

The third major consideration was the resource objectives to be met for specific types of land in the alternatives. These objectives were identified and the effects of the different silvicultural systems on the various resources were evaluated by the Forest interdisciplinary team. While many resources are impacted by silvicultural activities, most of the evaluation centered on the major issues and concerns identified early in the planning process through public involvement. The issues and concerns used to evaluate the silvicultural systems were:

- Production of merchantable timber in amounts great enough to maintain local industry.
- Impact of timber harvest on water quality and anadromous fish habitat - a major factor is sedimentation from roads necessary to access the timber.
- Wildlife habitat, particularly big-game habitat. The availability of suitable winter ranges and the availability of hiding cover and undisturbed areas in summer habitat.
- The impact of harvest activities on riparian area and the resources dependent on riparian areas.
- Maintaining visual quality in areas adjacent to major travelways (roads, trails) and river corridors.

The interdisciplinary team evaluated even-aged and uneven-aged management systems against all of the factors mentioned previously; Regional Guide standards, biological factors, site-specific stand conditions, and other resource objectives.

Even-aged management, in general, was determined to be the best option for addressing the major concerns. Many stands on the Forest, particularly in the mixed conifer type, have a high percentage of overmature, suppressed, or diseased trees. These stands can be rapidly regenerated to young, vigorous stands using even-aged systems. There are also more opportunities to control future stand make-up such as species and stocking to minimize future pest problems. This problem is especially critical in the lodgepole pine forest type where mountain pine beetle is a serious threat. Maximizing the volume of timber per unit of road enhances the economics of harvesting and reduces the amount of road that must be built to remove a given volume of timber. This is an important consideration for maintaining water quality and fish habitat. In general, even-aged systems require less road construction to harvest an equivalent volume of timber than uneven-aged systems. Frequent, periodic entries necessary under uneven-aged systems also require the use of roads more often. Even-aged management, even though it has a more immediate impact on wildlife than uneven-aged management, usually only requires 1 to 3 entries for management activities during an 80 to 120 year rotation. Uneven-aged management requires periodic harvest entries on a 10 to 20 year entry schedule. Reduced levels of road access and fewer disturbances to wildlife populations were major factors in determining the silvicultural system to use in developing the Forest Plan.

Uneven-aged silvicultural systems were shown to be effective for meeting the resource objectives in some areas, particularly in visually sensitive areas and riparian areas. In areas where the initial stand conditions were good (adequate stocking, vigorous trees, and minimal disease), uneven-aged systems could be implemented and meet the objectives of visual quality or riparian area protection. In analyzing the requirements for the vegetative manipulation however, it was determined that, in most cases, resource objectives could be met with either even-aged or uneven-aged management. Various modifications of the shelterwood system and small patch clearcuts could achieve results similar to uneven-aged systems. The specific application of either system in these areas will be based on resource objectives and the site-specific silvicultural prescription.

Clearcutting and shelterwood were the silvicultural systems selected to be used in the Forest Plan alternatives as a result of the evaluation described above. The Timber Harvesting section in Chapter IV has additional discussion on the impacts of the different silvicultural systems on other resources.

Based on an interdisciplinary evaluation of physical, biological, and economic factors, clearcutting was determined to be the optimum harvest method under certain conditions and situations. The final decision on which harvest method will be used will be based on interdisciplinary consideration of site-specific conditions. In general, clearcutting is the most optimum harvest method in the following situations:

- The moisture and temperature regimes of the site, following clearing, will be favorable for regenerating the desired species. In general, north and east aspects fit this category, but conditions can vary by geographic location.
- The existing stand is stocked with species that are not desired in the regenerated stand because of disease or insect susceptibility or the physiological condition of the existing overstory is such that natural regeneration is unlikely to occur.
- The change in forested appearance created by the harvest opening does not conflict with objectives for visual management.
- Management objectives for the area can be better achieved by clearing all of the trees in one operation (e.g. increasing browse and forage for wildlife or livestock).

Based on the existing mix of site conditions and the timber schedules of the alternatives considered, clearcutting will be applied to 40 to 50 percent of the regeneration harvest acres. The remaining acres will be harvested using the shelterwood harvest method. An estimated 5 to 10 percent of the suitable acres will be managed using various selection harvest methods for uneven-aged management.

Figures II-11 and II-12 display the relative differences in silvicultural systems between alternatives for timber harvest in the first decade. The acres of intermediate harvest or commercial thinnings increase in the later decades when there are more immature stands in the suitable land base. It is important to note that these figures do not represent acreage targets by method for alternatives. Rather, they are the levels projected by the Forest Planning model that represents the optimal way of meeting the objectives and constraints of each alternative. The final determination of which silvicultural system will be used for a specific project will be determined by a certified silviculturist after a site-specific analysis.

As shown in Figure II-11, the clearcut system is emphasized in high timber output alternatives and in alternatives with large wilderness recommendations which emphasize commodity outputs on lands outside of wilderness. Figure II-12 displays the acreage required to achieve harvest levels as shown in Figure II-11. The availability of different silvicultural systems for the Forplan Model to implement was constrained by land productivity groupings based on the evaluation described previously. Therefore, the variations among the alternatives shown in Figure II-11 and II-12 also reflect varying acres of productivity classes scheduled for harvest.

Figure II-11  
 Harvest Volume by Silvicultural Method - First Decade  
 (Million Board Feet)

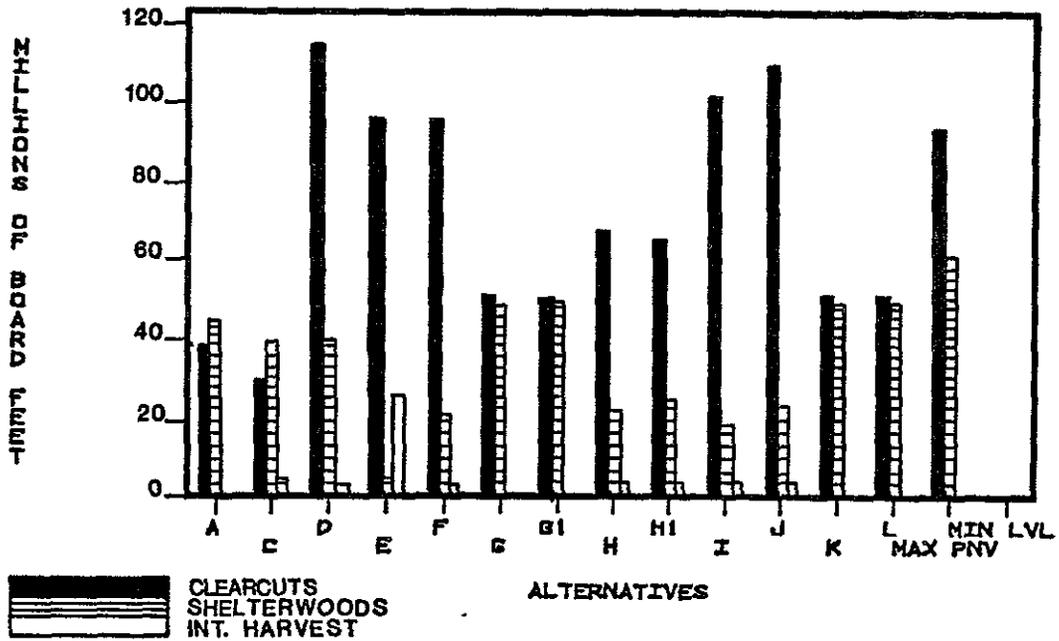


Figure II-12  
 Harvest Acreage by Silvicultural Method - First Decade  
 (Acres)

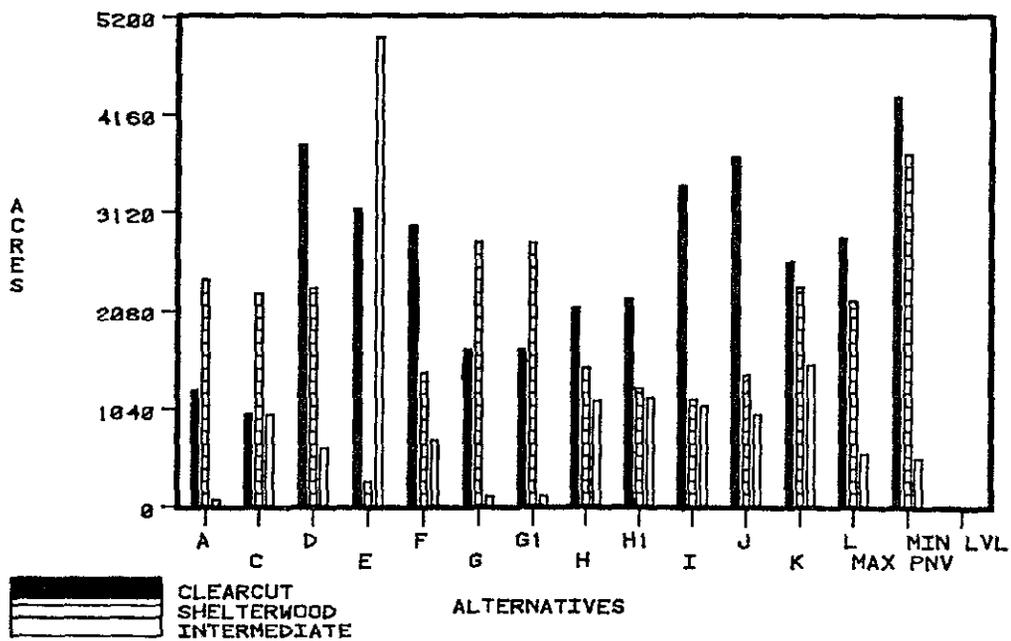
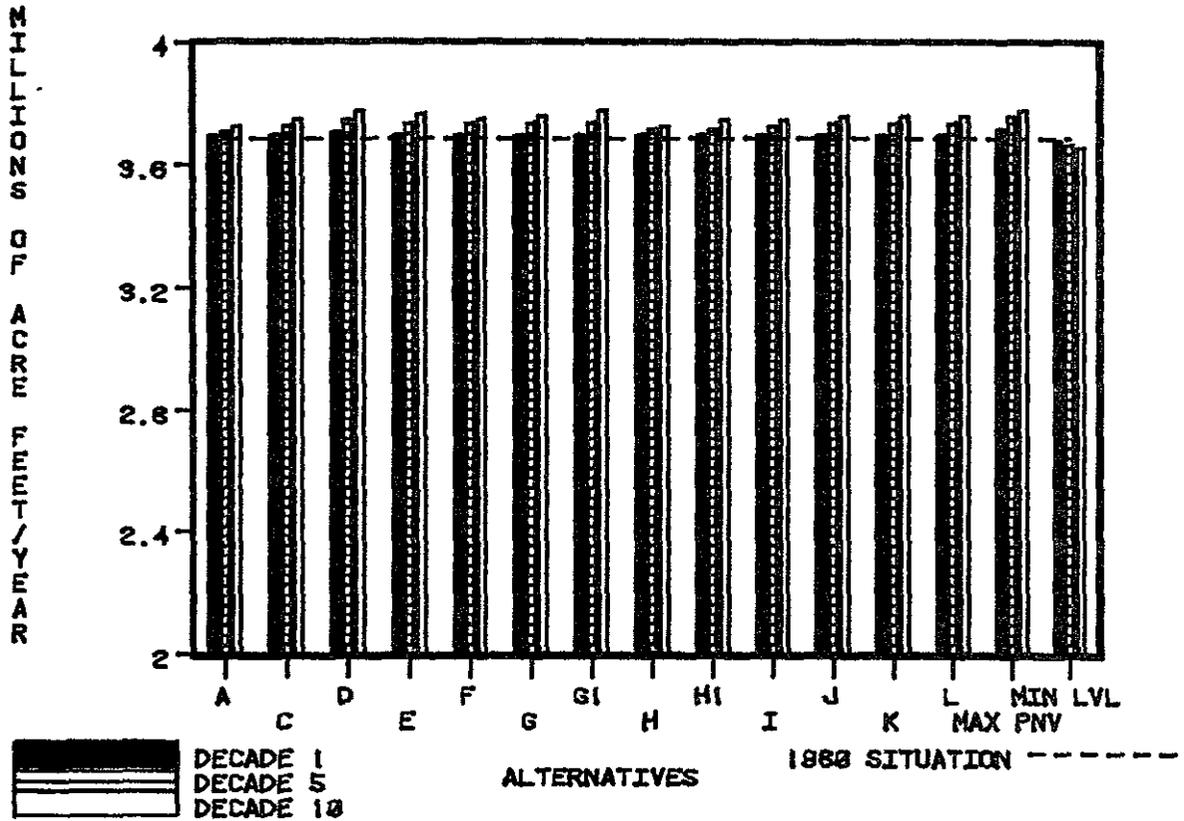


Figure II-14  
 Annual Water Yield (Planned in Decade 1, Projected in Later Decades)  
 (Million Acre-Feet/Year)



A change in watershed conditions over the baseline situation will occur in each of the alternatives. Except for Alternative A, all alternatives show sediment and water yield increases in nearly the same order of magnitude. Alternative D produces the greatest increases in sediment and water yields because it contains the largest amounts of road building and timber harvesting. For all alternatives, the major changes in watershed conditions will occur during the first seven decades when most road construction will take place.

Best management practices (BMP) would be applied to activities in all alternatives. These practices are designed to ensure protection of water related beneficial uses, compliance with state water quality standards, and accomplishment of Forest Plan goals. BMPs are further defined in the Glossary.

Monitoring would be done in each alternative to check compliance with Forest water quality objectives. If deviations from the objectives are noted, further investigation will be done to determine if adjustments in other activities are necessary. These adjustments will be done in accordance with the Forest Plan monitoring requirements set forth in Chapter V of the Forest Plan.

### 11. Minerals

Locatable (hardrock) mineral resource potential and leasable (oil, gas, and geothermal) energy resource potential have been evaluated. The Forest has been mapped into very high, high, moderate, and low potential categories. Mineral potential, which is based on geological factors, remains constant with each alternative; however, laws, regulations, executive orders, and management practices can significantly affect the accessibility of these resources for exploration and development. For example, wilderness designation withdraws areas from future mineral entry subject to valid existing rights. Those areas might fall into any one of the mineral potential categories depending on where the proposed wilderness is located. Withdrawal of low mineral potential lands from mineral entry would have less of an affect on mineral resource development than would withdrawal of very high potential lands. To determine the effect of each alternative on the accessibility of mineral resources for exploration and development, the areas in each mineral-potential category were evaluated against restriction placed by each alternative. Four categories of restrictions were identified:

- Category A      Withdrawn or proposed for withdrawal from mineral entry.
- Category B      Statutes or executive orders require specific protection or mitigation measures.
- Category C      Special conditions on winter game range or other lands require special lease stipulations or plan of operation conditions. Areas identified in the Forest Plan to be managed as roadless are included in this category.
- Category D      Standard lease stipulations and plan of operation conditions apply.

Table II-23 displays mineral potential in relation to each of the above restriction categories for each alternative.

**Table II-23**  
**Locatable Mineral and Leasable Energy Resource Potential**  
**(Thousand Acres)**

Alternative	Restriction Category	Potential for Locatable Minerals (Hard Rock)				Potential for Leasable Resources (Oil, Gas, Geothermal)			
		Low	Moderate	High	Very High	Low	Moderate	High	Very High
Total Acres on Forest		659	476	687	313	1995	65	41	34
A(CD)	A	560	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	53	8	11	10	83	0	0	0
	D	46	338	473	295	1014	65	41	34
C	A	560	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	60	120	175	133	670	14	14	5
	D	39	226	309	172	427	51	27	29
D	A	560	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	18	26	34	0	65	2	7	0
	D	81	320	450	305	1032	63	34	34
E	A	506	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	61	66	140	82	447	19	14	5
	D	38	280	344	223	650	46	27	29
F	A	560	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	68	129	194	158	525	17	14	5
	D	31	217	290	147	272	48	27	29
G(PA)	A	560	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	68	118	215	104	576	11	14	5
	D	31	228	269	201	521	54	27	29
G1	A	560	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	68	84	171	104	498	11	14	5
	D	31	262	313	201	599	54	27	29

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

Table II-23 (Continued)  
 Locatable Mineral and Leasable Energy Resource Potential  
 (Thousand Acres)

Alternative	Restriction Category	Potential for Locatable Minerals (Hard Rock)				Potential for Leasable Resources (Oil, Gas, Geothermal)			
		Low	Moderate	High	Very High	Low	Moderate	High	Very High
H	A	619	264	351	79	1318	20	0	0
	B	0	0	0	0	0	0	0	0
	C	0	13	11	0	17	0	7	1
	D	40	119	325	234	660	45	34	33
H1	A	619	264	351	79	1318	20	0	0
	B	0	0	0	0	0	0	0	0
	C	0	13	11	0	17	0	7	1
	D	40	119	325	234	660	45	34	33
I	A	611	223	321	71	1128	6	0	0
	B	0	0	0	0	0	0	0	0
	C	3	12	24	0	21	0	7	1
	D	45	241	342	242	846	59	34	33
J	A	611	183	254	71	1112	3	0	0
	B	0	0	0	0	0	0	0	0
	C	3	19	27	0	43	62	7	1
	D	45	274	406	242	840	0	34	33
K	A	611	183	254	27	1039	0	0	0
	B	0	0	0	0	0	0	0	0
	C	13	92	159	173	378	19	14	5
	D	35	201	274	113	578	46	27	29
L	A	560	181	257	8	1005	0	0	0
	B	0	0	0	0	0	0	0	0
	C	13	51	132	112	379	19	14	5
	D	86	244	298	193	611	46	27	29
MAX PNV	A	560	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	18	26	34	0	65	2	7	0
	D	81	320	450	305	1032	63	34	34
MIN LVL	A	560	130	203	8	898	0	0	0
	B	0	0	0	0	0	0	0	0
	C	18	26	34	0	65	2	7	0
	D	81	320	450	305	1032	63	34	34

## 12. Road System

There are now 2,050 miles of road on the Forest. The high timber output alternatives require 4,500 or more miles for access to all the area assigned to timber harvest (Table II-24). About 80 percent of the roads are projected to be constructed by decade 5 and all high timber output alternatives require a substantial increase in road construction activity in the first decade compared to the average for 1970-80.

Table II-24

Planned First Decade and Projected Second Decade Road Construction<sup>1</sup> and Total Road System (Miles)

Alternative/ Benchmark	First Decade	Second Decade	Cumulative <sup>2</sup> Total
A (CD)	710	510	2,340
C	650	810	4,000
D	1,150	980	5,780
E	970	780	5,180
F	930	910	4,310
G (PA)	820	640	4,170
G1	810	670	4,380
H	760	540	3,010
H1	760	550	2,990
I	950	870	3,610
J	1,030	990	4,660
K	920	910	4,400
L	940	1,020	4,860
Min Lvl	460	0	250
Max PNV	1,390	1,160	7,890

1/ Reconstruction mileage historically equates to 1 mile for every 3 miles of new construction.

2/ Based on 1985 inventory of 2050 miles existing.

The planned road closure mileage during the first decade will equal or exceed the annual construction mileage, and is consistent throughout all alternatives. The open density would be limited to approximately 1,500 miles.

## 13. Fire Management

All wilderness on the Forest is now or will be under fire management prescriptions. Areas outside of wilderness are also being considered for placement under fire management prescriptions. Prescriptions for areas within and outside wilderness range from immediate control in areas where public safety or other resource values are important to monitoring only where it is desirable to restore fire to the ecosystem.

14. Energy Consumption

Energy consumption for each alternative is determined by multiplying Regional coefficients of energy use for various activities times eight variable factors. Most of these factors are related to timber harvest volume, acres harvested, and road construction. Dispersed and developed recreation factors varied by RVD use and included energy expended by the user from home to recreation area or site.

Nearly three-fourths of the energy consumed in each alternative is for developed and dispersed recreation, timber harvest, and road construction (Table II-25). In general, the higher the timber output for a specific alternative, the greater the energy consumption because recreation uses vary only slightly among alternatives and other uses vary directly with timber harvest volume.

Table II-25  
Average Annual Energy Consumption, First Decade  
(Billion BTUs)

Alternative	Recreation	Administrative	Road Maintenance	Road Construction	Range	Timber
A (CD)	134	23	3	187	3	109
C	141	23	3	171	3	96
D	121	23	4	301	3	204
E	144	23	3	255	3	165
F	143	23	3	245	3	156
G (PA)	145	23	3	265	3	174
G1	133	23	3	195	3	175
H	119	23	3	200	3	120
H1	119	23	3	200	3	120
I	118	23	3	250	3	160
J	120	23	3	271	3	178
K	140	23	3	242	3	153
L	142	23	3	247	3	159
Min Lvl	121	23	1	0	3	0
Max PNV	121	23	3	301	3	204

15. Issues Considered in Alternatives

The alternatives were designed to respond in various ways to the 13 major public issues and concerns. A summary of how each alternative responds to each issue is displayed in Table II-26.

Comparisons of each alternative to current direction (Alternative A) for the issue-related outputs are displayed in Figures II-15 through II-28.

Table II-26  
 Comparison of Alternatives for Response to Major Issues and Concerns  
 (Outputs Planned in First Decade, Projected in Later Decades)

Issue/Concern	Current Direction	
	A	C
1. Timber Harvest Levels	84 MMBF in 1st decade. 143 MMBF in 5th decade.	74 MMBF in 1st decade. 197 MMBF in 5th decade.
2. Timber-Anadromous Fishery	Maintain water quality to support a minimum harvestable fishery population.	Maintain water quality to support a fishery population that exceeds minimum harvestable levels.
3. Roadless/Wilderness	78,763 acres are recommended for roadless area management.	330,419 acres are recommended for roadless area management.
4. Wildlife (Elk) Demands	Little emphasis is placed on managing winter range for elk. 550 acres of winter range burned annually.	Emphasis on winter range habitat management. 2,700-3,200 acres of winter range burned annually.
5. Motorized vs. Nonmotorized Recreation	997,075 acres will be managed for semiprimitive non-motorized or primitive recreation.	1,223,565 acres will be managed for semiprimitive non-motorized or primitive recreation.
6. Recreation Uses	Roaded natural recreation opportunities will be emphasized.	Semiprimitive recreation opportunities will be emphasized.
7. Road Standards	Standards will be consistent with overall resource objectives.	Standards will be consistent with overall resource objectives.
8. Special Recreation Areas	Quality is maintained in all alternatives.	Quality is maintained in all alternatives.
9. Livestock Grazing	43,000 AUMs in 1st decade. 51,000 AUMs in 5th decade.	42,000 AUMs in 1st decade. 42,000 AUMs in 5th decade.

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

D	E	F
157 MMBF in 1st decade. 242 MMBF in 5th decade.	127 MMBF in 1st decade. 228 MMBF in 5th decade.	116 MMBF in 1st decade. 206 MMBF in 5th decade.
Maintain water quality to support a minimum harvestable fishery population.	Maintain water quality to support a fishery population that exceeds minimum harvestable levels.	Maintain water quality to support a minimum harvestable fishery population.
No areas are recommended for roadless or wilderness management.	No areas are recommended for roadless or wilderness management.	250,519 acres are recommended for roadless management.
No emphasis is placed on managing winter range for elk.	Emphasis on winter range habitat management. 2,500-2,900 acres of winter range burned annually.	Emphasis on winter range habitat management. 2,700-3,200 acres of winter range burned annually.
926,188 acres remain wilderness. These lands provide primitive recreation opportunities.	926,188 acres remain wilderness. These lands provide primitive recreation opportunities.	1,151,655 acres will be managed for semiprimitive non-motorized or primitive recreation.
Roaded natural recreation opportunities will be emphasized.	Roaded natural recreation opportunities will be emphasized.	Semiprimitive recreation opportunities will be emphasized.
Standards will be consistent with overall resource objectives.	Standards will be consistent with overall resource objectives.	Standards will be consistent with overall resource objectives.
Quality is maintained in all alternatives.	Quality is maintained in all alternatives.	Quality is maintained in all alternatives.
43,000 AUMs in 1st decade. 52,000 AUMs in 5th decade.	40,000 AUMs in 1st decade. 41,000 AUMs in 5th decade.	42,000 AUMs in 1st decade. 46,000 AUMs in 5th decade.

Table II-26 (Continued)  
 Comparison of Alternatives for Response to Major Issues and Concerns  
 (Outputs Planned in First Decade, Projected in Later Decades)

Issue/Concern	Current Direction	
	A	C
10. Timber-Wildlife	An emphasis is placed on wildlife by prescribing high summer range objectives for elk.	An emphasis is placed on wildlife by prescribing high summer range objectives for elk.
11. Minerals	79 percent of high/very high mineral potential lands remain open to mineral entry.	79 percent of high/very high mineral potential lands remain open to mineral entry.
12. Fire Management	All alternatives have the same emphasis on fire management.	All alternatives have the same emphasis on fire management.
13. Visual Quality	Retention and partial retention VQOs are prescribed. Harvest occurs on 14,000 acres of these areas.	Retention and partial retention VQOs are prescribed. Harvest occurs on 114,000 acres of these areas.

---

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

---

---

D	E	F
No emphasis is placed on elk summer range management.	No emphasis is placed on elk summer range management.	An emphasis is placed on wildlife by prescribing high summer objectives for elk.
79 percent of high/very high mineral potential lands remain open to mineral entry.	79 percent of high/very high mineral potential lands remain open to mineral entry.	79 percent of high/very high mineral potential lands remain open to mineral entry.
All alternatives have the same emphasis on fire management.	All alternatives have the same emphasis on fire management.	All alternatives have the same emphasis on fire management.
No retention or partial retention VQOs are prescribed.	Retention and partial retention VQOs are prescribed. Harvest occurs on 128,000 acres of these areas.	Retention and partial retention VQOs are prescribed. Harvest occurs on 128,000 acres of these areas.

---

**Table II-26 (Continued)**  
**Comparison of Alternatives for Response to Major Issues and Concerns**  
**(Outputs Planned in First Decade, Projected in Later Decades)**

Issue/Concern	Preferred Alternative G	G1
1. Timber Harvest Levels	108 MMBF in 1st decade. 210 MMBF in 5th decade.	111 MMBF in 1st decade. 275 MMBF in 5th decade.
2. Timber- Anadromous Fishery	Maintain water quality to support a fishery population that exceeds minimum harvestable levels.	Maintain water quality to support a fishery population that exceeds minimum harvestable levels.
3. Roadless/ Wilderness	126,846 acres are recom- mended for roadless area management.	126,846 acres are recom- mended for roadless area management.
4. Wildlife (Elk) Demands	Emphasis on winter range habitat management. 5,000 acres of winter range burned annually.	Emphasis on winter range habitat management. 5,000 acres of winter range burned annually.
5. Motorized vs. Nonmotorized Recreation	1,040,349 acres will be managed for semiprimitive non-motorized or primitive recreation.	1,040,349 acres will be managed for semiprimitive non-motorized or primitive recreation.
6. Recreation Uses	Semiprimitive recreation opportunities will be emphasized.	Semiprimitive recreation opportunities will be emphasized.
7. Road Standards	Standards will be consistent with overall resource objectives.	Standards will be consistent with overall resource objectives.
8. Special Recreation Areas	Quality is maintained in all alternatives	Quality is maintained in all alternatives.
9. Livestock Grazing	43,000 AUMs in 1st decade. 48,000 AUMs in 5th decade.	43,000 AUMs in 1st decade. 48,000 AUMs in 5th decade.

H

H1

---

94 MMBF in 1st decade.  
150 MMBF in 5th decade.

89 MMBF in 1st decade.  
197 MMBF in 5th decade.

Maintain water quality  
to support a minimum  
harvestable fishery  
population.

Maintain water quality  
to support a minimum  
harvestable fishery  
population.

503,162 acres are recom-  
mended for wilderness  
management.

503,162 acres are recom-  
mended for wilderness  
management.

No emphasis is placed  
on managing winter  
range for elk.

No emphasis is placed  
on managing winter  
range for elk.

1,429,350 acres are  
classified wilderness.  
These lands provide  
primitive recreation  
opportunities.

1,429,350 acres are  
classified wilderness.  
These lands provide  
primitive recreation  
opportunities.

Primitive recreation  
opportunities will be  
emphasized.

Primitive recreation  
opportunities will be  
emphasized.

Standards will be  
consistent with overall  
resource objectives.

Standards will be  
consistent with overall  
resource objectives.

Quality is maintained  
in all alternatives.

Quality is maintained  
in all alternatives.

42,000 AUMs in 1st decade.  
45,000 AUMs in 5th decade.

42,000 AUMs in 1st decade.  
45,000 AUMs in 5th decade.

---

Table II-26 (Continued)  
 Comparison of Alternatives for Response to Major Issues and Concerns  
 (Outputs Planned in First Decade, Projected in Later Decades)

Issue/Concern	Preferred Alternative G	G1
10. Timber- Wildlife	An emphasis is placed on wildlife by prescribing high summer range objectives for elk.	An emphasis is placed on wildlife by prescribing high summer range objectives for elk.
11. Minerals	79 percent of high/very high mineral potential lands remain open to mineral entry.	79 percent of high/very high mineral potential lands remain open to mineral entry.
12. Fire Management	All alternatives have the same emphasis on fire management.	All alternatives have the same emphasis on fire management.
13. Visual Quality	Retention and partial retention VQOs are prescribed. Harvest occurs on 127,000 acres of these areas.	Retention and partial retention VQOs are prescribed. Harvest occurs on 127,000 acres of these areas.

---

H

H1

---

No emphasis is placed on elk summer range management outside of wilderness for elk.

54 percent of high/very high mineral potential lands remain open to mineral entry.

All alternatives have the same emphasis on fire management.

No retention or partial retention VQOs are prescribed.

No emphasis is placed on elk summer range management outside of wilderness for elk.

54 percent of high/very high mineral potential lands remain open to mineral entry.

All alternatives have the same emphasis on fire management.

No retention or partial retention VQOs are prescribed.

---

Table II-26 (Continued)  
 Comparison of Alternatives for Response to Major Issues and Concerns  
 (Outputs Planned in First Decade, Projected in Later Decades)

Issue/Concern	I	J
1. Timber Harvest Levels	123 MMBF in 1st decade. 176 MMBF in 5th decade.	137 MMBF in 1st decade. 205 MMBF in 5th decade.
2. Timber-Anadromous Fishery	Maintain water quality to support a minimum harvestable fishery population.	Maintain water quality to support a minimum harvestable fishery population.
3. Roadless/Wilderness	326,617 acres are recommended for wilderness management.	219,105 acres are recommended for wilderness management.
4. Wildlife (Elk) Demands	No emphasis is placed on managing winter or summer range for elk.	No emphasis is placed on managing winter or summer range for elk.
5. Motorized vs. Nonmotorized Recreation	1,252,805 acres are roadless or wilderness. These lands provide primitive recreation opportunities.	1,145,293 acres are roadless or wilderness. These lands provide primitive recreation opportunities.
6. Recreation Uses	Primitive recreation opportunities will be emphasized.	Primitive recreation opportunities will be emphasized.
7. Road Standards	Standards will be consistent with overall resource objectives.	Standards will be consistent with overall resource objectives.
8. Special Recreation Areas	Quality is maintained in all alternatives.	Quality is maintained in all alternatives.
9. Livestock Grazing	42,000 AUMs in 1st decade. 46,000 AUMs in 5th decade.	42,000 AUMs in 1st decade. 46,000 AUMs in 5th decade.

K

L

102 MMBF in 1st decade.  
206 MMBF in 5th decade.

Maintain water quality to support a fishery population that exceeds minimum harvestable levels.

172,966 acres are recommended for wilderness management.

Emphasis on winter range habitat management. 1,350-1,500 acres of winter range are burned annually.

1,099,154 acres are wilderness. These lands provide primitive recreation opportunities.

Primitive and roaded natural recreation opportunities will be emphasized.

Standards will be consistent with overall resource objectives.

Quality is maintained in all alternatives.

42,000 AUMs in 1st decade.  
46,000 AUMs in 5th decade.

102 MMBF in 1st decade.  
206 MMBF in 5th decade.

Maintain water quality to support a fishery population that exceeds minimum harvestable levels.

Recommendations: 94,203 acres to wilderness, 78,763 acres to management without roads.

Emphasis on winter range habitat management. 2,500-2,900 acres of winter range are burned annually.

1,091,278 acres will be managed for semiprimitive non-motorized or primitive recreation.

Semiprimitive recreation opportunities will be emphasized.

Standards will be consistent with overall resource objectives.

Quality is maintained in all alternatives.

42,000 AUMs in 1st decade.  
47,000 AUMs in 5th decade.

Table II-26 (Continued)  
Comparison of Alternatives for Response to Major Issues and Concerns  
(Outputs Planned in First Decade, Projected in Later Decades)

---

Issue/Concern	I	J
10. Timber- Wildlife	No emphasis is placed on elk summer range management outside of wilderness.	No emphasis is placed on elk summer range management outside of wilderness.
11. Minerals	61 percent of high/very high mineral potential lands remain open to mineral entry.	68 percent of high/very high mineral potential lands remain open to mineral entry.
12. Fire Management	All alternatives have the same emphasis on fire management.	All alternatives have the same emphasis on fire management.
13. Visual Quality	No retention or partial retention VQOs are prescribed.	No retention or partial retention VQOs are prescribed.

---

---

K

L

---

An emphasis is placed on wildlife by prescribing high summer range objectives for elk.

72 percent of high/very high mineral potential lands remain open to mineral entry.

All alternatives have the same emphasis on fire management.

Retention and partial retention VQOs are prescribed. Harvest occurs on 128,000 acres of these areas.

An emphasis is placed on wildlife by prescribing high summer range objectives for elk.

73 percent of high/very high mineral potential lands remain open to mineral entry.

All alternatives have the same emphasis on fire management.

Retention and partial retention VQOs are prescribed. Harvest occurs on 128,000 acres of these areas.

---

Figure II-15  
 Comparison of Alternative C to Alternative A (Current Direction)  
 Change in Decade 1 Outputs

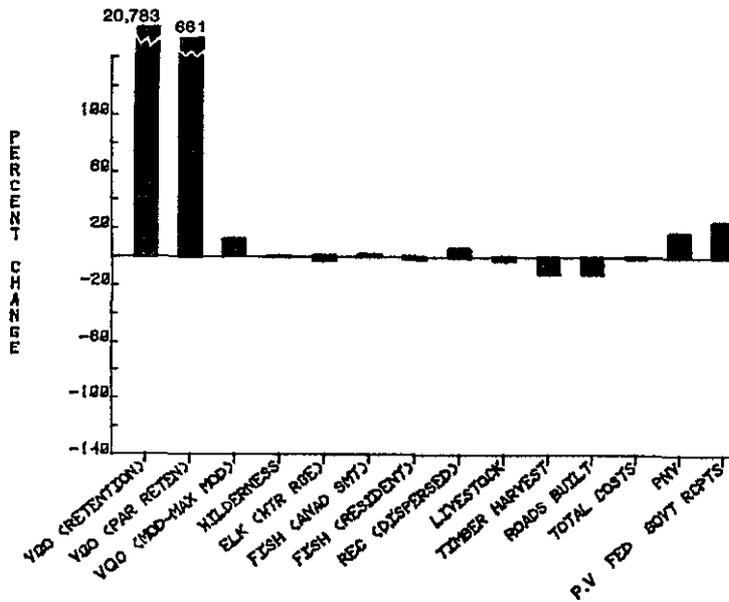


Figure II-16  
 Comparison of Alternative D to Alternative A (Current Direction)  
 Change in Decade 1 Outputs

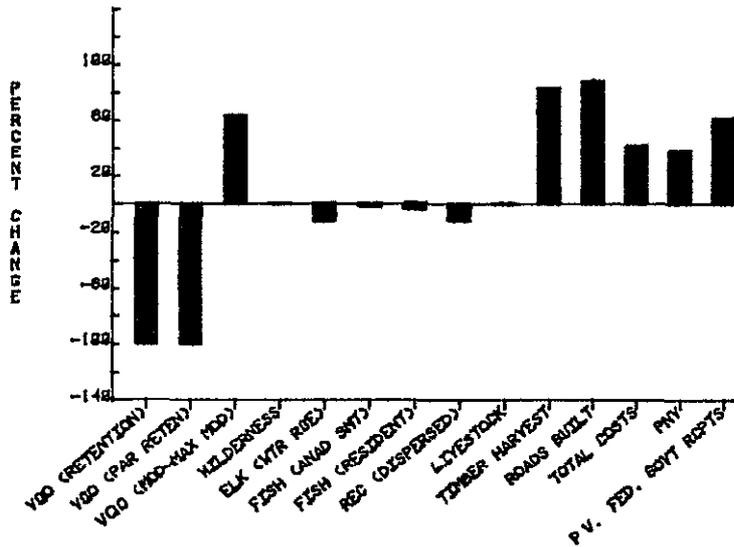


Figure II-17  
 Comparison of Alternative E to Alternative A (Current Direction)  
 Change in Decade 1 Outputs

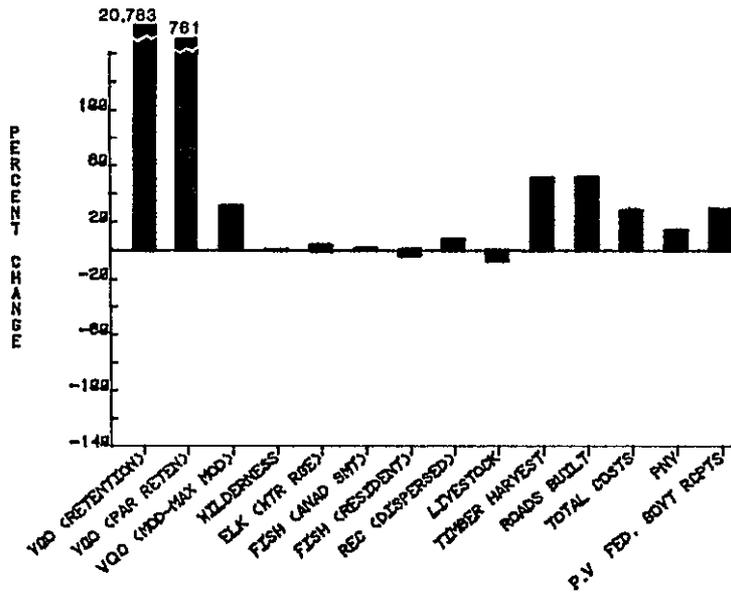


Figure II-18  
 Comparison of Alternative F to Alternative A (Current Direction)  
 Change in Decade 1 Outputs

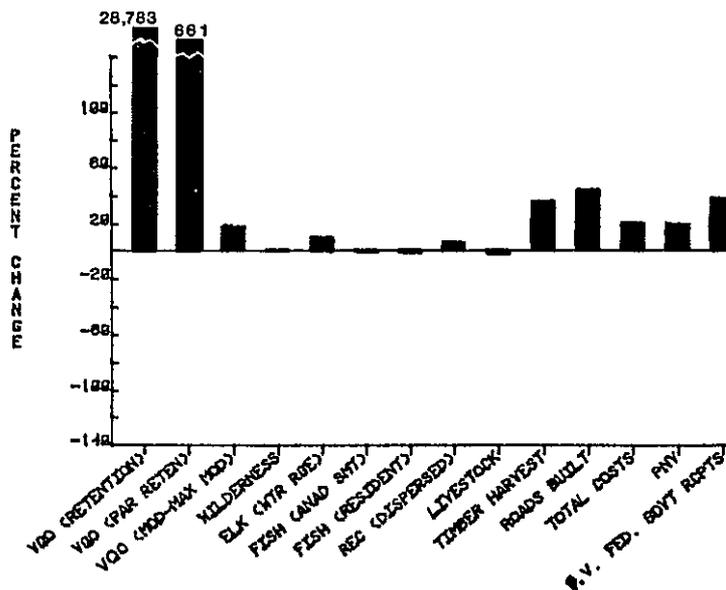


Figure II-19  
 Comparison of Alternative G (Preferred Alternative) to Alternative A (Current Direction) Change in Decade 1 Outputs

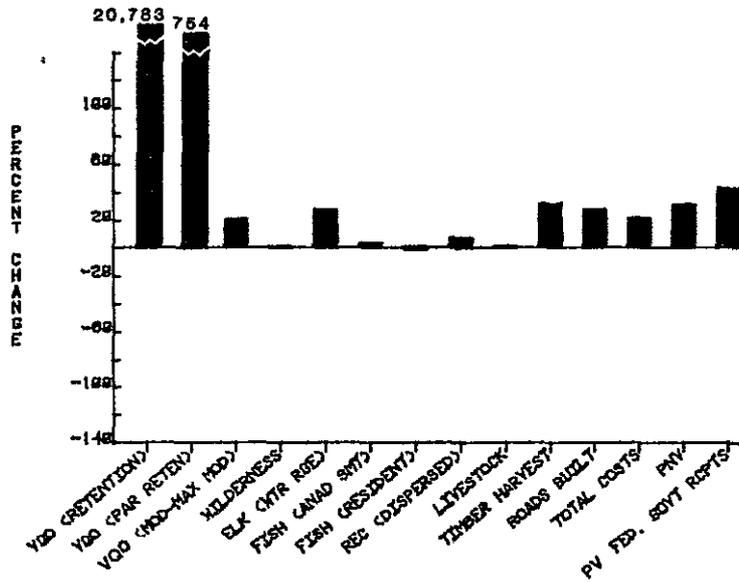


Figure II-20  
 Comparison of Alternative G1 to Alternative A (Current Direction) Change in Decade 1 Outputs

