

United States  
Department of  
Agriculture

Forest Service

Pacific  
Northwest  
Region

1988

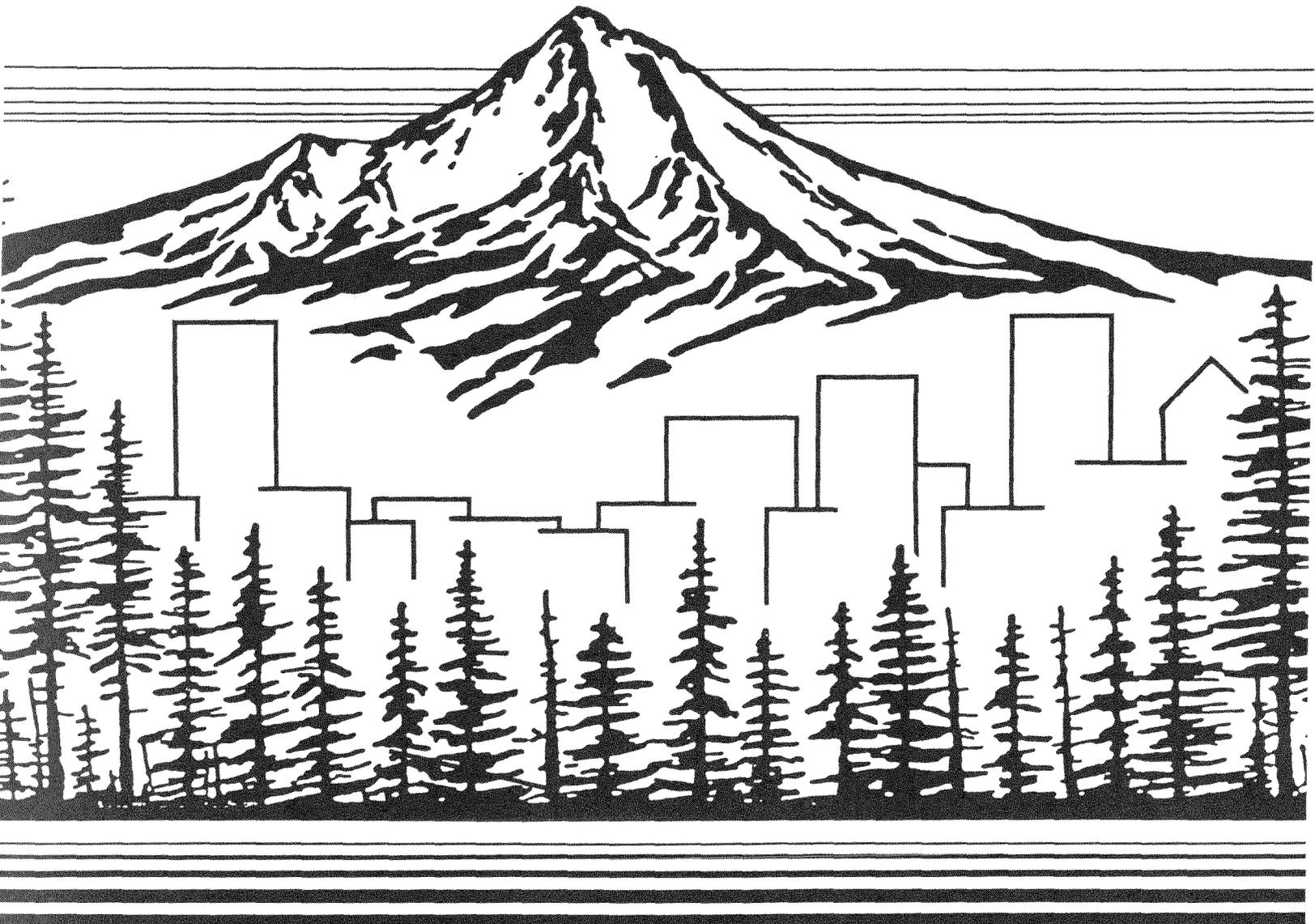


# Reviewer's Guide and Response Form

Draft Environmental  
Impact Statement

Proposed Land and Resource  
Management Plan

Mt. Hood National Forest



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Department of  
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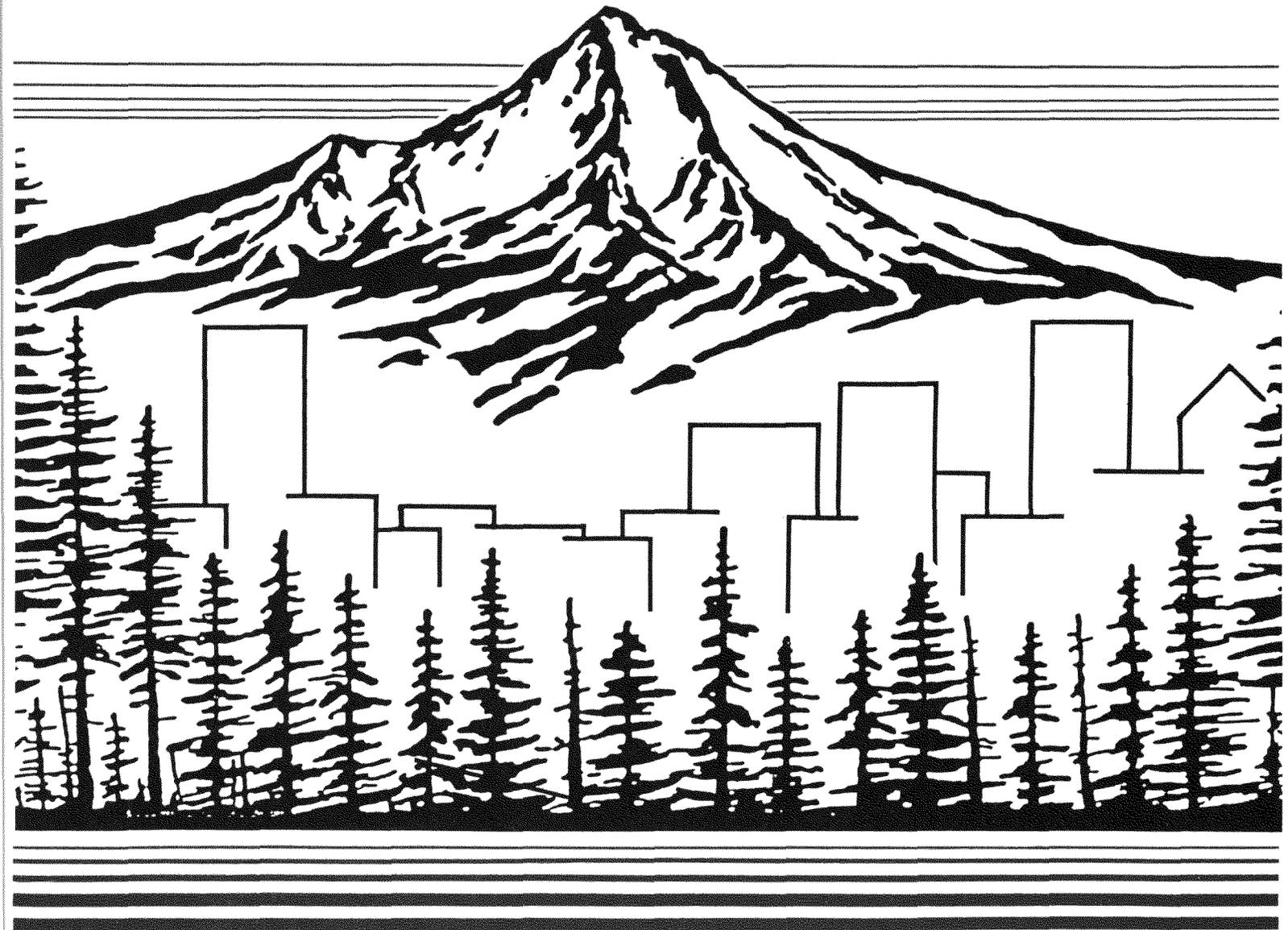


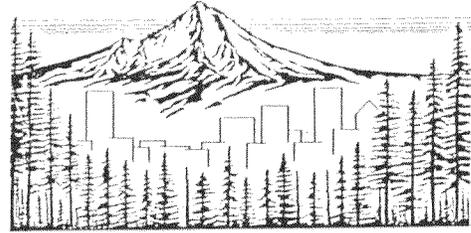
# Reviewer's Guide

Draft Environmental  
Impact Statement

Proposed Land and Resource  
Management Plan

Mt. Hood National Forest





Dear Reader:

The Draft Environmental Impact Statement and the Land and Resource Management Plan for the Mt. Hood National Forest represent a milestone in National Forest management. The Forest Supervisor and staff have given Forest Planning high priority in the last eight years. They have been committed to completing the Forest Plans so that we can move into a new era of management.

The Draft Environmental Impact Statement identifies a range of alternative plans for managing the Forest. It also describes a preferred alternative that the Forest Service thinks is the best treatment of major issues raised by you.

The Reviewers Guide is designed to help you review the planning documents. It may make it easier for you to respond. Should you wish to respond, we must receive your comments by April 15, 1988.

This Draft Environmental Impact Statement is subject to some adjustments pending the decision on the Supplemental Environmental Impact Statement for the Regional Guide for the Pacific Northwest Region. The Regional Guide Supplement is being prepared to address the spotted owl issue and could result in some minor adjustments in the final plan.

Your thoughts and concerns are important. I will weigh all public comments carefully. Your comments will help the Forest Supervisor and me to select the best alternative suitable for the Mt. Hood National Forest.

JAMES F. TORRENCE  
Regional Forester

# TABLE OF CONTENTS

	<b>PAGE</b>
<b>SECTION ONE: You and Forest Planning</b>	5
<b>SECTION II: Planning on the Mt. Hood National Forest</b>	11
Purpose of the DEIS & Proposed Forest Plan	11
The Affected Environment	12
Public Issues	13
Timber	15
Fish and Water	16
Wildlife	16
Recreation	17
Unroaded Areas	17
Communities	18
Addressing the Public Issues	19
<b>SECTION III: Description of Alternatives</b>	21
Alternative Development Process	21
The Preferred Alternative	22
Alternatives at a Glance	22
Alternative NC (No Change)	22
Alternative A (No Action)	24
Alternative B (RPA)	26
Alternative C	28
Alternative D	29
Alternative E (Preferred)	31
Alternative F	33
Alternative G	36
Alternative H	38
Alternative I	39
Management Areas	41
<b>SECTION IV: Outputs and Effects</b>	47
Current Management	47
Response to the Public Issues	48
Consequences of Management Practices	57
Major Conclusions and Areas of Controversy	61
<b>SECTION V: Your Turn</b>	65

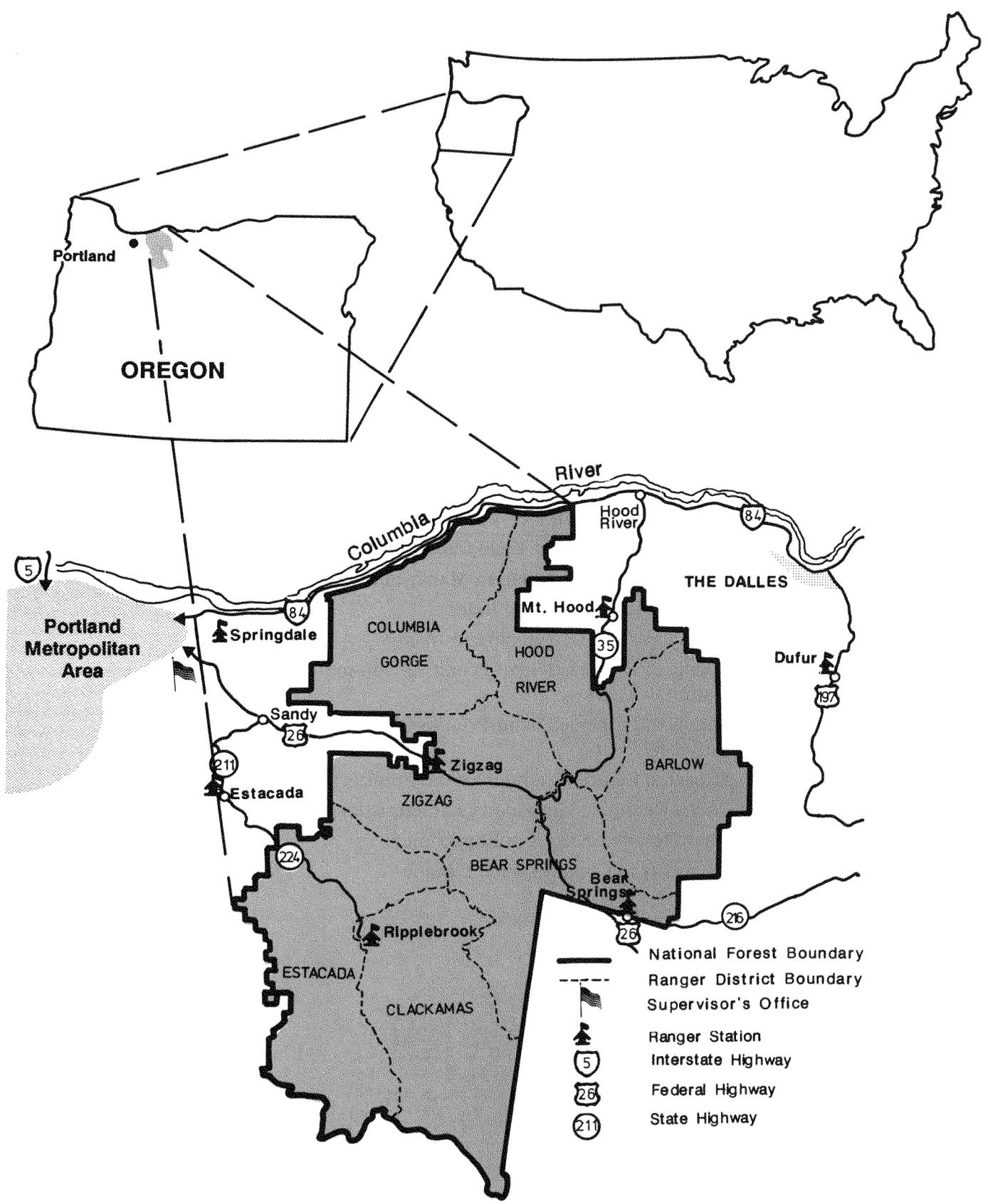
**TABLES**

		<b>PAGE</b>
Table 1	Public Issue Groups	14
Table 2	Indicators of Responsiveness to the Public Issues	20
Table 3	Management Areas and Categories	43
Table 4a	Acreage in Management Areas by Alternative	44
Table 4b	Acres Suitable for Timber Production	45
Table 5	Current Management as Represented by Alternatives NC and A	48
Table 6	Indicators of How the Alternatives Respond to the Public Issues	49

**FIGURES**

Figure 1a	Total Forest Acres by Management Area Category	46
Figure 1b	Acres Tentatively Suitable for Timber Production by Management Area Category	46
Figure 2a	Timber Harvest Schedule - Departure Alternatives	50
Figure 2b	Timber Harvest Schedule - Non-Decline Alternatives	50
Figure 2c	Average Annual Timber Volume Offered, First Decade	51
Figure 2d	Long Term Sustained Yield Capacity (LTSYC)	51
Figure 3a	Acres Allocated to Riparian Management	52
Figure 3b	Aquatic Habitat Stability Index	52
Figure 4	Young and Old Growth after 50 Years	53
Figure 5a	Supply of Dispersed Semi-Primitive Non-motorized Recreation after 50 Years	54
Figure 5b	Supply of Dispersed Semi-Primitive Motorized Recreation after 50 Years	54
Figure 5c	Expected Future Condition of the Forest's Viewsheds	55
Figure 6	Areas Retaining Unroaded Characteristics	55
Figure 7a	First Decade Changes in Employment	56
Figure 7b	Payments to Counties, First Decade	56

# MT. HOOD NATIONAL FOREST LOCATION MAP



# Section I: You and Forest Planning

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## Not Just Another Plan

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There are plans around for just about everything. What kinds of plans have you made lately? How many of us look ahead 10 years or 50 years and decide on what kind of place we want to live? The plan for your National Forest is an effort to do just that. This is an opportunity for you to be part of the planning process.

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**Wait!**

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Don't put this down! Although National Forest planning is complicated, this guide can make it easier for you to study the alternatives presented in the Draft Environmental Impact Statement (DEIS). It also outlines a way in which you can give us your ideas about what you want us to consider in developing a management plan for this National Forest.

**Give us your ideas**

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## Forest Plans: What's Inside?

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The Forest Service manages 155 National Forests across the Nation. These forests provide products and services such as recreation, timber, grazing, water, minerals, and wildlife for millions of people. People depend on National Forest resources for jobs, as well as for recreation and to meet psychological needs. Plans are being prepared on every forest to decide how to manage lands and resources to meet a variety of needs. The plans will identify the amount of land to be managed for different uses and products without exploiting or degrading the environment. The plans also show the amounts of different products and services each forest can provide, depending on which resources (recreation, wildlife, timber, etc.) are emphasized. Additionally, the plan describes the management practices to be used in managing each of the forest resources.

**Land and resource  
management**

## Management alternatives developed

National Forests are public lands that belong to all people in the United States. Each forest is preparing a Draft Environmental Impact Statement that describes how resources on that forest contribute to the national economy and its well-being, as well as to local communities and environments. Each statement lists alternative ways to manage the forest for different goals and resource mixes. These alternatives have been developed over the past several years by collecting a variety of information from the forest, counties, states, and members of the public.

Each forest has identified a preferred alternative they feel best addresses the issues for that forest. After a public review period, a final plan will be selected.

To implement each final plan, a monitoring and evaluation procedure will be developed to identify any improvements necessary as prescribed management practices are carried out. Adjustments may be needed occasionally throughout the life of the Forest Plan. Each plan will also be re-evaluated with public comment at least every 10-15 years so that new information can be included.

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## How Can You Help?

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Since the National Forests are managed to benefit all of us, it is important that you and other members of the public give us your ideas on how you think National Forests should be managed.

The Draft Environmental Impact Statement and Draft Forest Plan describe the Mt. Hood National Forest and display a variety of alternative ways to manage it. This period of public review of these documents is your opportunity to analyze the alternatives and share your comments.

Your response, analyzed along with the responses of others, will be used to develop the final Forest Plan. Information about your desires, interests, and needs are an integral part of the decision making process.

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## Using This Guide

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This guide has been prepared to help you develop your responses. It contains a summary of the information found in the Draft Environmental Impact Statement, a list of the complete set of available documents and a procedure you

can use in preparing your response. This guide is not intended to be a substitute for the DEIS. Please take the time to refer to the full set of documents. They are available from the Mt. Hood National Forest Supervisor and District Ranger Offices. There are reference copies available at local libraries. Informational meetings are scheduled during the public review period.

**Documents available**

There is a response form, included in this guide, which we hope will be helpful in developing your comments.

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## The Complete Set of Documents

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You may comment on any of the material found in the complete set of planning documents. They include:

- Draft Environmental Impact Statement (DEIS)
- Appendices to the DEIS
- The Proposed Forest Plan
- Map Packet

### **Draft Environmental Impact Statement**

Chapter 1, "Purpose and Need," identifies laws and regulations used to direct the planning and environmental analysis process. It also identifies public issues concerning the land and resource management of this National Forest.

Chapter 2, "Alternatives, Including the Proposed Action," describes the alternatives, explains their formulation, and compares them.

**DEIS includes four chapters**

Chapter 3, "Affected Environment," presents the biological, physical, social, and economic setting of the Mt. Hood National Forest.

Chapter 4, "Environmental Consequences," discusses the effects of the alternatives on the environment, including direct and indirect effects, unavoidable adverse impacts, irreversible or irretrievable effects and cumulative effects.

### **Appendices to the DEIS**

The Appendices contain technical discussions about various aspects of the planning process. They contain more detailed descriptions of some environments, analyses, and effects.

### **Proposed Forest Plan**

This contains information about how the Forest's land and resources will be managed if the preferred alternative is implemented. It contains the detailed standards and guidelines for management practices.

It is important to remember that the Proposed Forest Plan is a proposal and that the Draft Environmental Impact Statement is a draft. The information gained in the public review process can result in a modified or a new preferred alternative and revision of the Proposed Forest Plan.

### **Map Packet**

This contains a map of each alternative, plus supplementary resource maps.

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## **The Response Form**

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**Comments may be written or spoken**

A response form has been provided. There are ideas and hints on the response form which may be useful to you.

The response form may be used with either the Reviewer's Guide and/or the Draft Environmental Impact Statement.

It is not necessary to use the response form. You may send us your comments in any format you find suitable. Even verbal comments are appreciated. Contact the Forest Public Affairs Officer or the Planning Staff Officer and they will help you document your verbal comments.

For the Mt. Hood National Forest, these contacts are:

Barbara Kennedy, Public Affairs Officer. Phone: 666-0751

William Geurds, Planning Staff Officer. Phone: 666-0795

Your interests, desires, and needs as expressed in comments on the alternatives, are critical in helping us develop a final Forest Plan.

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## **Informational Meetings**

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A number of informational meetings are being scheduled during the public review period on the Draft Environmental Impact Statement. A list of planned meeting places are shown at the top of page 9. Times and exact locations will be announced later.

In addition, if your organization would like a presentation or informal discussion on the Draft Environmental Impact Statement, contact either the Forest Public Affairs Officer or the Forest Planning Staff Officer to schedule an appropriate time.

Hood River  
The Dalles  
Gresham  
Estacada

Detroit  
Zigzag  
Maupin, Pine Grove  
Tygh Valley Area

**Locations of  
proposed meetings**

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## **The Decision-Making Process**

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When the public review period ends, the responses will be analyzed. To reach a decision on the final Forest plan, the Forest Supervisor and Regional Forester will review and evaluate the analysis of those responses and use the analyses of the public input - along with other factors, including legal requirements, environmental effects, resource capability, resource protection, economic stability, etc.

**All factors to be  
considered**

The final plan will be described in the Final Environmental Impact Statement (FEIS) as well as a Forest Plan document. The FEIS will display how the public input was used and how decision criteria were applied in developing the final Forest Plan.

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## **Take It Step By Step**

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Condensing several years of planning into one small document is no easy task. It also means that as a reviewer, you will have no easy task. However, if you take it piece by piece, it may be easier. Here are some suggestions:

Visit the Forest. Become acquainted with what is out there. Revisit your favorite places and find some new ones. Take time to become knowledgeable about the area.

Read the Reviewer's Guide.

Refer to the complete set of documents for full descriptions of issues, alternatives, environmental consequences, etc.

Attend public meetings and ask questions to clarify information provided in the written documents.

Mail your comments before April 15, 1988. Use either the response form provided or other methods that may be more comfortable for you.

**Suggestions for you**



Mt. Hood view from Trillium Lake.

# Section II: Planning on The Mt. Hood National Forest

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## Purpose of the DEIS and Proposed Forest Plan

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The National Forest Management Act of 1976 requires preparation of a plan for the management of each national forest. When adopted, a forest plan will establish management standards to guide all resource management activities. It will also provide activity schedules that will become a basis for proposals to fund these activities. The Proposed Land and Resource Management Plan for the Mt. Hood National Forest is contained in a separate document, which is available for public review and comment.

**A management plan  
is required**

The National Environmental Policy Act of 1969 requires the preparation of an Environmental Impact Statement when a major action by a federal agency may significantly affect the quality of the human environment. This disclosure of environmental impacts, and review of the EIS by the public are intended to improve the final agency decision. The Draft Environmental Impact Statement (DEIS) for the Mt. Hood National Forest Proposed Land and Resource Management Plan has been prepared in accordance with the requirements of this law, and regulations issued by the Council on Environmental Quality.

The DEIS describes ten alternative plans for the future management of the Forest, along with the effects of managing the Forest under each plan. It discusses the goods, services and benefits provided by each alternative as well as the costs and environmental consequences resulting from them. The alternative plan identified in the Draft Environmental Impact Statement as the preferred alternative is the basis for the proposed Mt. Hood National Forest Land and Resource Management Plan.

**Ten alternative plans  
developed**

This proposed Plan and alternatives to it are being presented to the public in draft form, in order to solicit comments and suggestions on how the Plan could be improved. It is expected that modifications of the Plan will result from public review. Other changes in the proposed Plan may be necessary because of new information. One possible

**Amendments at any time**

source of such information is the Supplement to the Regional Guide for the Pacific Northwest Region that will determine management of spotted owl habitat. All modifications will be explained in the Final EIS or the Final Forest Plan.

The National Forest Management Act provides for modifying the Plan after implementation has begun. Amendments to the plan may be made at any time, after notifying the public. If an amendment will produce a significant change in the Plan, or if the Secretary of Agriculture finds that conditions have significantly changed, the Plan will be revised and public participation will be solicited. The Forest Plan will be revised within 15 years.

This section of the Reviewer's Guide provides a summary of the significant conclusions and major areas of controversy identified during formulation of the Forest Plan. It describes the Mt. Hood National Forest: its resources and the issues arising from management of these resources to meet conflicting public needs. It describes each alternative management plan considered, and compares the outputs and effects of these alternatives. It also refers to the corresponding sections of the DEIS where the reader may find the detailed information required by the National Environmental Policy Act.

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## **The Affected Environment**

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**Opportunities and limitations**

The Mt. Hood National Forest is in north central Oregon. It is bounded by the Columbia River on the north, and by the Willamette National Forest and the Warm Springs Indian Reservation on the south. To the west, the Forest meets the Willamette Valley, and on the east it adjoins the wheat fields and range lands of eastern Oregon. There are 1.1 million acres within the Forest's boundaries. They lie primarily within Clackamas, Multnomah, Hood River, and Wasco counties, and these are the counties most influenced by the management of the Forest. The Forest Supervisor's Office is in Gresham, Oregon, 15 miles east of Portland.

Alternative plans for uses of the Forest have been developed against a backdrop of the environment of the Forest. This environment provides opportunities, and imposes limitations as well. Chapter III of the DEIS provides a full account of the Forest's environmental components. Those which strongly influence opportunities and limitations are introduced here.

The Forest straddles the Cascade Mountain Range and includes the moist western slopes and the drier east side. The elevation of the Forest ranges from 65 feet above sea level on the Columbia River to the summit of Mt. Hood, 11,235 feet high. An extremely diverse environment results from the influences of climate and elevation. Of particular interest to the public is the Forest's large volume of standing timber that grows on the productive forest lands. When harvested, these trees contribute raw materials to the forest products industry. Remaining on the Forest, the trees provide habitat required by wildlife species. The forested mountains are also an extremely important source of water for use by fish and wildlife, and for human consumption.

**Forest environment  
extremely diversified**

The Forest's natural environment supports a number of recreational attractions, including Mt. Hood, the Columbia Gorge, numerous mountain lakes and streams, and a wide variety of plants and animals. The presence of these amenities, in close proximity to a large city, makes the Forest a popular destination for outdoor recreation activities. Much of the Forest is highly developed with roads built primarily for logging. These roads, along with several major highways, provide access for recreational use of most of the Forest. The Forest also includes six Wildernesses established by Congress. These, and other undeveloped areas, provide opportunities for people to experience solitude in a natural setting.

**Recreational assets,  
including Wilderness**

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## **Public Issues**

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People look upon the resources of Mt. Hood National Forest differently, depending upon their individual interests and needs. They would like to see the Forest managed in ways that satisfy these needs. While such wishes are understandable, they raise conflicting public issues that the Forest Service strives to reconcile or resolve in formulating its land management plan.

What are the relevant public issues? Answering that question led to an extensive and continuing process employing public meetings, newsletters, correspondence, and local news media. It included personal contacts by Forest Service personnel. It incorporated comments and suggestions from a wide cross-section of individuals and groups such as the local chapter of the Sierra Club, the Industrial Forestry Association, the Western Forest Industry Association, the Oregon Environmental Council, the Mt. Hood Study Group, and the

**Conflict of issues and  
concerns**

## Issues arranged in groups

Columbia River Inter-Tribal Fish Commission. Other contacts included adjacent landowners and National Forests, agencies of state and local governments, local employers, and Native Americans.

Chapter I of the DEIS describes the concerns identified by these and other members of the public. Appendix A of the DEIS provides a more detailed description of the process of identifying public issues, and describes other management concerns and related management opportunities.

Fifteen public issues were identified. Most of these issues are related to some degree, and those relating to the same resources have been arranged in six groups. These Public Issue Groups have been addressed in the design and analysis of the alternatives. A given Public Issue Group is addressed in different ways, according to the emphasis of each alternative.

Table 1 presents the six Public Issue Groups. A discussion of the issues associated with these groups follows the table. The discussion of public issues concludes with a presentation of the indicators used to measure how well the alternatives respond to each issue group.

**Table 1**  
**PUBLIC ISSUE GROUPS**

TIMBER	Level of supply of timber and wood fiber.
FISH AND WATER	Maintenance and enhancement of fish habitat and water quality.
WILDLIFE	Maintenance and enhancement of the quality and quantity of old growth and other suitable wildlife habitat.
RECREATION	Maintenance and enhancement of wilderness, outdoor recreation resources and scenic quality of the Forest in response to the needs of an increasing nearby metropolitan population.
UNROADED AREAS	Disposition of the remaining unroaded areas.
COMMUNITIES	Community dependence on Forest resources.

## Timber

The 1977 Mt. Hood National Forest Timber Management Plan presently projects sales of 361 million board feet per year, based on a potential annual yield of 384 million board feet. The 1980 national Resources Planning Act (RPA) target for the Forest is 376 million board feet per year. Over the last decade, the Forest has sold an average of 384 million board feet each year.

Local mills rely on raw material which comes from the Mt. Hood National Forest. They expect this supply to continue, at least at past levels. Recent studies indicate that a shortfall in supply from private ownerships is expected to occur over the next three decades. The demand for national forest timber is expected to increase in order to fill this supply gap and to help meet the nation's need for wood. The State of Oregon has called for the Mt. Hood National Forest to produce about 565 million board feet per year for the next ten years.

Other public interest groups have preferences that would limit or restrict timber production. These groups and individuals believe that timber harvesting and its associated activities such as road building and use of herbicides, adversely impact the resources of interest to them. Such resources include fish habitat, water quality, old-growth forest, and unroaded recreation opportunities. These members of the public do not believe that the Forest should be managed to support private timber companies who have exhausted their own supply.

**Timber supply and demand**

**Differing views of timber harvesting**



## Important uses of Forest water

### Fish and Water

Nearly all major watersheds on the Forest support wild runs of anadromous fish, a scarce and declining resource of significant concern in the Pacific Northwest. Forest water also supplies fish hatcheries, and is a source of drinking water for over one quarter of Oregon's population. The Bull Run Municipal Watershed provides water for Portland residents, and many of them are strongly opposed to timber harvest in this part of the Forest.

Restoring the salmon runs to the streams of the Mt. Hood is of great importance to the Oregon Department of Fish and Wildlife, local sportsmen's groups and Native Americans who live and fish in the area. The Columbia River Inter-Tribal Fish Commission has stated that the Forest Service has a statutory obligation to maintain and enhance anadromous fish populations. The Oregon Chapter of the Sierra Club and the Oregon Department of Fish and Wildlife indicate that the potential to the Mt. Hood National Forest for salmon and steelhead fisheries is substantially greater than its current condition.

Many members of timber industry groups, however, feel that timber harvest can be successfully accomplished without significant impacts to riparian resources. They view the timber growing in riparian areas as an important part of the timber supply.

### Wildlife

The National Forest Management Act requires that the Forest Plan provide for diversity of plant and animal communities. Of particular concern on the Mt. Hood are:

- mature and old-growth forest habitat, which is used by the northern spotted owl, among other species;
- the pine/oak habitat on the eastern fringe of the Forest, which supports huntable populations of squirrel, turkey, deer and elk;
- and the riparian habitat described above.

## Wildlife habitat and timber

Concern arises because many of the wildlife species require the same large, old trees that have high economic value as lumber. Environmental groups believe that the amount of area of old growth forests is rapidly declining and protection from logging is urgently needed. The Associated Oregon Loggers, Inc., and other timber industry groups do not want areas set aside for wildlife beyond those already provided in Wildernesses and other undeveloped areas.

Many individual hunters, as well as several environmental and wildlife organizations, including the Audubon Society, National Wildlife Federation, and the Oregon Natural Resources Council have indicated that increased number and use of roads will increase harassment of wildlife. Timber industry and local governments disagree with environmental



groups about how much habitat is necessary to maintain wildlife populations, and take a strong position against over-protection.

### **Recreation**

In recent years, the Mt. Hood National Forest has provided over four million visitor days of recreation per year. According to a 1985 report, this ranks the Forest first in the Pacific Northwest Region, and eighth nationally in recreational use. Two of the three most frequent types of recreational use of the Forest are driving for pleasure and viewing scenery. Natural-appearing forests are important to visitor satisfaction and are not always compatible with the most productive timber management techniques.

### **Recreational facilities: supply and demand**

While recreation in a semi-primitive non-motorized setting is a relatively small component of the Forest total, the present supply of such opportunities does not meet demand. Additional development in such settings for timber management will further reduce these opportunities. The Sierra Club, Mazamas, and members of the Oregon

Environmental Council believe that maintenance of the present scenic, special interest, and unroaded areas is essential to meeting needs for diverse recreation opportunities on the Forest. Hiking groups would like to see trails restored that have been lost through timber harvest and road building. Other groups have proposed that four rivers be included in the National Wild and Scenic River System.

The second most popular recreation pastime on the Forest is camping. Recent maintenance programs have not kept pace with deteriorating facilities. The recreating public has also indicated a need for additional parking facilities.

### **Unroaded Areas**

The Oregon Wilderness Act of 1984 left the Forest with about 130,000 acres in ten identified unroaded areas. The areas range in size from 1,700 to 29,600 acres. Some areas

## Timber harvesting in unroaded areas

are collections of small parcels at the edges of designated wildernesses. The Oregon Wilderness Act made all of these areas available for multiple-use management, however the option remains for the Forest to decide to maintain their unroaded characteristics. To do so would preclude timber harvest from within these areas.

The issue is critical nationally, and local environmental groups are quite sensitive to proposals for timber harvest in some areas on the Forest. The Oregon Wilderness Coalition believes that the remaining unroaded areas ought to be maintained in an unroaded condition in order to preserve future options for possible management of these areas. They believe that such areas provide many benefits.

Individuals and organizations who support the wood products industry's economic role in the Forest's area of influence support the development of unroaded areas, if necessary to maintain or increase timber supplies. They feel that the Oregon Wilderness Act resolved the issues of timber harvesting in these areas and that every opportunity to increase harvest from them should be explored.

### Communities

The Mt. Hood National Forest is a source of social and economic benefits to an extremely diverse clientele. The city of Portland dominates the regional economy, and its residents are accustomed to enjoying the outdoor recreation benefits that the Forest provides. Native Americans also rely on the Forest's resources for their traditional practices. On the other hand, there are small communities on the east side of the Forest, as well as some west side communities, that are



highly dependent for employment on a stable flow of Mt. Hood National Forest timber. Timber harvest from the Forest also results in federal payments to local governments.

As the local demand for both commodity and amenity types of resources increases, trying to satisfy both types of needs will most likely create conflict. Local county commissioners are especially sensitive to this issue. The State of Oregon is also concerned about the effect on the economy of the State of reductions in timber supply to mills in the State.

## **Commodity and amenity resources**

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## **Addressing the Public Issues**

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The public issues indicate that conflicting demands exist for the Forest's limited resources, and suggest the possibility of a wide range of management responses. These conflicts may be addressed by:

- developing management standards;
- designating lands to be managed for particular uses;
- scheduling activities;
- investing public funds.

Issues were converted to goals and objectives for alternatives, as described in Chapter II of the DEIS. There is at least one alternative that provides a strong emphasis for each Public Issue Group. Since goals that respond to some issues are incompatible with goals associated with other issues, there are alternatives which place a low emphasis on responding to some public issues. Other alternatives provide for mixes of management activities that moderately address most or all of the Public Issue Groups.

The Public Issue Groups also provided a handy tool for comparing management alternatives. Chapter II of the DEIS presents tabular comparisons of many outputs and effects that result from managing the Forest under the different alternatives. For quick reference, a few outputs of effects have been selected to indicate the responsiveness of each alternative to each Public Issue Group. These "indicators of responsiveness" are listed for each Group in Table 2. They will also be used later to compare alternatives.

Also included in Table 2 is present net value (PNV). PNV is the difference between the benefits and costs of managing the Forest over time, considering those benefits and costs for which dollar values may be determined. PNV is an index of the economic efficiency of management. Forest Service planning regulations require that the PNV of the various alternatives be compared.

## **Responses to issues by alternatives**

## **"Indicators of responsiveness"**

**Table 2**  
**INDICATORS OF RESPONSIVENESS TO THE PUBLIC ISSUES**

Public Issue Group	Indicators of Responsiveness	What the Indicator Measures
TIMBER	Average Annual Volume Offered First Decade	
	Allowable Sale Quantity, Green (ASQ)	Green, merchantable volume offered (million board feet per year)
	Timber Sale Program Quantity (TSPQ)	Total projected volume offered (million board feet per year)
	Long-Term Sustained Yield Capacity (LTSYC)	The annual capacity of the Forest to produce green, merchantable volume 150 Years after Forest Plan implementation (million cubic feet per year)
FISH AND WATER	Aquatic Habitat Stability Index (10= highest)	An index based on the Forest's capacity to provide aquatic habitat 20 years after Forest Plan implementation (index is based on a scale from 1 to 10)
	Acres Assigned to Meet Riparian Objectives	Amount of land in Management Areas A1 (Bull Run), A9 (Key Riparian), B6 (Special Watersheds), B7 (General Riparian)
WILDLIFE	Acres of Old Growth after 50 Years	Total area supporting trees at least 200 years old, 50 years after plan implementation
	Acres of Young Growth after 50 Years	Total area supporting trees less than or equal to 20 years old, 50 years after plan implementation
RECREATION	Expected Visual Condition after 50 Years	Appearance of the Forest's 48 most sensitive viewsheds, 50 years after Forest Plan implementation
	Sensitive Viewsheds Appearing Natural	Number of viewsheds less than 5% visually altered
	Sensitive Viewsheds Appearing Slightly Altered	Number of viewsheds less than 10% visually altered
	Dispersed, Semi-Primitive Recreation Opportunities after 50 years 1/ Motorized (M RVDs/year)	Visitor days of semi-primitive motorized recreation, 50 years after plan implementation (in thousands of recreation visitor days per year)
	Non-Motorized (M RVDs/year)	Visitor days of semi-primitive non-motorized recreation, 50 years after plan implementation (in thousands of recreation visitor days per year)
UNROADED AREAS	Areas Retaining Unroaded Characteristics After 15 Years	Of the 10 existing non-wilderness unroaded areas, how many will remain essentially unroaded 15 years after the Forest Plan is implemented
	After 50 Years	Of the 10 existing non-wilderness unroaded areas, how many will be in management areas that allow no roads
COMMUNITIES	Average Annual Payments to Counties (Millions)	First decade average amount paid by the U.S. Treasury based on gross Forest receipts
	Change in Employment (Number of Jobs)	Relative change (from 1977-1986 base period) in Forest contributions to influence area employment sources
PRESENT NET VALUE (PNV)	Millions of Dollars	Total discounted benefits minus total discounted costs

1. Does not include Wilderness recreation.

The discussion so far has drawn upon information contained in Chapters I and III of the DEIS. The next section describes how public issues are addressed by the various alternatives. This information is presented in detail in Chapters II and IV of the DEIS.

# Section III: Description of Alternatives

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## Alternative Development Process

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Each alternative considered for the management of the Mt. Hood National Forest is a combination of land uses, forest management activities, schedules and budgets, with accompanying direction and standards. Alternatives reflect the resource capabilities including both the potentials and the limitations) of the different kinds of lands located on the Forest. These capabilities were analyzed prior to developing alternatives as part of the preliminary planning step called the Analysis of the Management Situation. The results of this analysis were published as a separate document in 1985, and are summarized in Chapter 2 of the Forest Plan. This analysis defined a "decision space" which contained achievable objectives, and framed the choices available for management alternatives.

**Alternatives combine management factors**

Each alternative was designed to manage the land to achieve selected goals and objectives. Some of these objectives, such as meeting legal standards for timber harvest, wildlife habitat and air and water quality, are common to all alternatives (except Alternative NC, as described below). Of these common objectives, some are expected to limit resource development opportunities such as timber harvest. These include limits on size and distribution of timber harvest units, and provision of habitat for wildlife species that depend upon mature or old-growth forests or riparian areas. These minimum objectives are called Minimum Management Requirements (MMRs).

**Selected goals of land management**

Other objectives vary among the alternatives and determine the mix and amount of resource outputs. Some objectives can be achieved only at the expense of others, and thus the objectives may also become constraints upon management. By managing the Forest lands and resources in different ways, varied objectives can be achieved which respond to the issues differently, and which provide different combinations of benefits to the public.

**Different objectives yield different benefits**

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## The Preferred Alternative

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### Alternative E preferred

The Preferred Alternative has been identified as Alternative E. The Preferred Alternative was selected after careful comparison of all the alternatives on the basis of the issues, resource outputs, environmental effects, implementation costs, and the "trade offs" between them. The Forest Service believes the Preferred Alternative best maximizes public benefits in an environmentally sound manner.

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## Alternatives at a Glance

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### Broad range of choices

Each of the alternatives was designed to address the Public Issue Groups in different ways. The alternatives presented in the DEIS do not represent every possible option by any means. They do present the decision maker with a broad range of choices. They also serve to demonstrate the trade-offs that must be made in selecting one alternative's objectives, outputs and consequences over those of another alternative that addresses the public issues differently.

Descriptions of each of the ten alternatives follow. They include the goals and general emphasis of the alternatives. They also describe how management of the Forest would address the Public Issue Groups in each alternative.

In the alternative descriptions and displays, timber volume has been defined in different terms. Allowable sale quantity (ASQ) is volume that meets specified size and quantity requirements, and is removed at the time of a sale of live timber. ASQ, green, represents live trees, and total ASQ includes dead and dying trees that are present in the sale area. Total harvest volume is called timber sale program quantity (TSPQ). It includes all wood fiber harvested. ASQ is the basis of planning annual harvest activities. TSPQ is an estimate of the total volume that will result from harvest activities.

### Alternative NC (No Change)

Alternative NC has been developed in response to decisions made regarding an appeal brought by the Northwest Forest Resource Council. It represents the existing Timber Management Plan, and consequently does not comply with all provisions of the National Forest Management Act (NFMA) and regulations promulgated by the Secretary of Agriculture. Current management is interpreted as the combination of existing unit plans and district multiple use plans for specific areas of the Forest, and individual resource plans, including

the Timber Management Plan. Current plans do not specifically recognize the requirements to maintain viable populations of animals or the management of more than 4,700 acres for fish habitat and water quality purposes. Because this alternative does not reflect NFMA's timber suitability criteria, it includes land currently considered unsuitable for timber production, and it devoted more land to timber production and harvest than any other alternative. This alternative does not reflect changes in public issues that have surfaced since the existing plans were developed; however, it permits a variety of existing uses to continue. The existing Timber Management Plan calls for an annual harvest or allowable sale quantity (total ASQ) of 356 million board feet.

**Timber**

Offer 356 million board feet of timber per year (total ASQ) in all decades.

Incorporate the timber land base from the existing Timber Management Plan, adjusted to 1984.

Emphasize current silvicultural practices (planting, thinning, and clear-cutting).

Use information regarding land suitability, yields, and utilization standards available in 1977.

**Fish and Water**

The Bull Run Municipal Watershed will be managed for water quality.

Minimize reductions in riparian resource (fish habitat, water quality, etc.) capability.

Aggressively apply the Timber Management Plan's Streamside Management Unit and Special Wildlife Habitat (wetlands) direction.

Practice intensive mitigation, rehabilitation and monitoring of fish and water resources.

**Wildlife**

Coordinate with other types of management to assure habitat for about 34 pairs of spotted owls.

**Recreation**

Provide a "standard" level of service. This is intended to meet the demands of the public in a manner which is responsive to changing desires over time relative to the quality of recreational services and facilities provided.

Reduce rates and amounts of timber harvest in at least 12 of the Forest's 48 most sensitive viewsheds.

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them, including the unroaded areas described below.

**Timber: 356 MMBF  
per year**

**Fish and Water**

**Wildlife**

**Recreation**

**Unroaded Areas**

**Unroaded Areas**

No harvest is planned in the following unroaded areas

- Eagle
- Larch Mountain
- Roaring River
- Olallie

**Communities**

**Communities**

Minimize change by incorporating existing management direction and maintaining past timber harvest levels.

**Designation of New Special Areas**

**Designation of New Special Areas**

Wild and Scenic River Recommendations

- Roaring River
- Salmon River

Proposed Special Interest Areas

- Face of the Columbia Gorge
- Roaring River
- Bagby Hot Springs
- Squaw Meadows
- Mill Creek Buttes

Proposed Research Natural Areas

- Big Bend
- Bull Run Additions

**Alternative A (No Action)**

**Timber harvest: 243 MMBF per year**

Alternative A is designed to present estimates of the outputs and effects of managing the Forest under current plans and practices. Plans would be modified to the extent required by new laws and regulations, including the minimum management requirements for wildlife species, soil and water resources, and timber suitability criteria. The resulting allowable sale quantity (total ASQ) of timber will be 243 million board feet per year. Alternative A will permit a variety of existing uses to continue, including present timber management practices. This alternative projects results of managing in the future without regard to public issues that have arisen since existing plans were approved, aside from the minimum management requirements of NFMA.

**Timber**

**Timber**

Produce the highest amount of timber possible, given a harvest policy of nondeclining flow, existing land allocations and minimum management requirements of NFMA.

Employ existing silvicultural practices (emphasizing planting, thinning, and clear-cutting).



### **Fish and Water**

Meet riparian and fishery habitat minimum management requirements

Maintain forest-wide riparian resource (fish habitat, water quality, etc.) capability at or near present levels.

Operate a moderate mitigation/rehabilitation program.

The Bull Run Municipal Watershed will be managed for water quality.

### **Fish and Water**

### **Wildlife**

Coordinate with other types of management to assure habitat for about 80 pairs of spotted owls, about 102 pileated woodpeckers, and about 231 pine martens.

### **Wildlife**

### **Recreation**

Provide a "standard" level of service. This is intended to meet the demands of the public in a manner which is responsive to changing desires over time relative to the quality of recreational services and facilities provided.

### **Recreation**

Reduce rates and amounts of timber harvest in at least 16 of the Forest's 48 most sensitive viewsheds.

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them, including the unroaded areas described below.

### **Unroaded Areas**

No harvest is planned in the following unroaded areas.

Eagle  
Larch Mountain  
Roaring River  
Olallie

### **Unroaded Areas**

Harvest is deferred for at least 15 years in the following un-roaded areas.

Wind Creek  
Twin Lakes  
Bull of the Woods

## **Communities**

### **Communities**

Minimize change by incorporating management direction from existing land use plans.

## **Designation of New Special Areas**

### **Designation of New Special Areas**

#### **Wild and Scenic River System Recommendations**

- Roaring River
- Salmon River

#### **Proposed Special Interest Areas**

- Face of the Columbia Gorge
- Roaring River
- Bagby Hot Springs
- Squaw Meadows
- Mill Creek Buttes

#### **Proposed Research Natural Areas**

- Big Bend
- Bull Run Addition

### **Alternative B (RPA)**

## **Timber harvest: 349 MMBF per year**

Alternative B is designed to respond to the Resources Planning Act (RPA) objectives and responds most strongly to the public issue of timber supply. The RPA 1980 target was 376 million board feet and 1985 target is 420 million board feet total harvest volume (TSPQ). This alternative departs from the Forest Service policy of nondeclining flow of timber and harvests more than the Forest's long-term sustained yield capacity to meet the new target in the first decade and the old target for the 50-year RPA planning horizon. The allowable sale quantity (total ASQ) for this alternative is 349 million board feet per year of timber in the first decade. Alternative B also provides a program mix that addresses RPA targets for other resources such as wildlife, range, and developed recreation. The Bull Run Municipal Watershed would be managed according to the Bull Run Planning Unit EIS for the production of potable water. Management of recreational opportunities would emphasize the use of existing and new roads for dispersed motorized recreation, and the use of existing developed sites such as campgrounds.

### **Timber**

## **Timber**

Produce as much total timber volume as possible from the suitable land base for the next 50 years.

Insure that the long-term sustained yield capacity of the Forest is equalled or exceeded every decade.

Manage timber intensively using such practices and planting and thinning.

### **Fish and Water**

Meet riparian and fishery habitat minimum management requirements.

Maintain forest-wide riparian resource (fish habitat, water quality, etc.) capability at or near present levels.

Operate an intensive mitigation/rehabilitation program.

The Bull Run Municipal Watershed will be managed for water quality.

### **Fish and Water**

### **Wildlife**

Coordinate with other types of management to assure habitat for about 80 pairs of spotted owls, about 102 pileated woodpeckers, and about 231 pine martens.

Mitigate potential adverse effects due to increased timber harvests.

### **Wildlife**

### **Recreation**

Provide a "standard" level of service. This is intended to meet the demands of the public in a manner which is responsive to changing desires over time relative to the quality of recreational services and facilities provided.

Reduce rates and amounts of timber harvest in at least 7 of the Forest's 48 most sensitive viewsheds.

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them.

### **Recreation**

### **Unroaded Areas**

Harvest is deferred for at least 15 years in the following unroaded area.

Eagle

### **Unroaded Areas**

### **Communities**

Maintain or exceed past harvest levels by harvesting above long-term sustained yield capacity in the early decades.

Insure that harvest levels do not decline more than 25% from decade to decade.

### **Communities**

### **Designation of New Special Areas**

None.

The existing Olallie Lake Special Interest Area will be available for development for timber harvest.

### **Designation of New Special Areas**

## **Alternative C**

**Timber harvest :  
411 MMBF per year**

Alternative C is developed in response to the public issues concerning adequate timber supplies and community dependence on forest resources. It would provide maximum timber harvests during the next 30 years consistent with resource protection provided by minimum management requirements. Alternative C's first decade allowable sale quantity (total ASQ) of 411 million board feet and total harvests volume (TSPQ) of 493 million board feet are designed to come as close as possible to meeting the timber objectives of the Forestry Program for Oregon, proposed by the Oregon State Board of Forestry. Under Alternative C, all land biologically suitable for growing trees would be managed for intensive timber production except for existing Wildernesses, Special Interest Areas, research natural areas, and lands managed to meet minimum management requirements for other resources. Timber harvesting would be on a regularly scheduled basis in the Bull Run Watershed. For the first 30 years, timber harvesting would be above the long-term sustained yield capacity of the Forest. This represents a temporary departure from a nondeclining flow of timber volume.

### **Timber**

**Timber**

Produce as much timber as possible during the next 30 years, consistent with minimum legal requirements.

Insure that the long-term sustained yield capacity of the Forest is equalled or exceeded every decade.

Manage the Bull Run Watershed intensively for timber production.

Manage timber intensively, using such practices as planting and thinning.

### **Fish and Water**

**Fish and Water**

Meet riparian and fishery habitat minimum management requirements.

Maintain forest-wide riparian resource (fish habitat, water quality, etc.) capability at or near present levels.

Operate an intensive mitigation/rehabilitation program.

### **Wildlife**

**Wildlife**

Coordinate with other types of management to assure habitat for about 80 pairs of spotted owls, about 102 pileated woodpeckers, and about 231 pine martens.

Mitigate potential adverse effects due to increased timber harvests.

### **Recreation**

**Recreation**

Provide a "standard" level of service. This is to meet the demands of the public in a manner which responds to changing

desires over time relative to recreational services and facilities provided.

Reduce rates and amounts of timber harvest in at least 7 of the Forest's 48 most sensitive viewsheds.

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them.

#### **Unroaded Areas**

Harvest is deferred for at least 15 years in the following unroaded area.

Eagle

#### **Communities**

Provide timber volume in excess of long-term sustained yield capacity during the period of expected shortages on timber land owned by others.

Insure that harvest levels do not drop more than 25% from decade to decade.

#### **Designation of New Special Areas**

None.

The existing Olallie Lake Special Interest Area will be available for development for timber harvest.

#### **Alternative D**

Alternative D is structured to address important nontimber issues while producing a level of timber harvest in the first ten years that does not adversely affect local communities. Alternative D differs from others developed in response to the public issues on timber supply by placing primary emphasis on short-term supply. It has been designed to maintain near-current levels of timber production by harvesting above long-term sustained yield capacity during the first decade. A total volume of 384 million board feet per year has been harvested during the last ten years. This alternative calls for a departure from nondeclining flow of timber and results in an annual first decade total harvest volume (TSPQ) of 385 million board feet and total ASQ of 300 million board feet per year. This alternative would support local timber-dependent communities, while at the same time responding to public issues on recreation, wildlife, fish and water quality. Among the other resources given high priority in this alternative are some Special Interest Areas, travel corridors of exceptional scenic value, watersheds needed to maintain anadromous fish populations, and the Bull Run Municipal Watershed.

#### **Timber**

Produce as much total timber volume as possible for the next ten years from the suitable land base.

#### **Unroaded Areas**

#### **Communities**

#### **Designation of New Special Areas**

#### **Response to other issues**

#### **Timber**

Insure that the long-term sustained yield capacity of the Forest is equalled or exceeded every decade.

Generally manage timber intensively, using such practices as planting and thinning.

## **Fish and Water**

### **Fish and Water**

Meet or exceed riparian and fishery minimum management requirements.

Aggressively pursue opportunities to provide local long-term increases in riparian resource productive capability.

Manage the Bull Run and The Dalles municipal watersheds, Fifteenmile Creek and Still Creek primarily for their water resources.

Apply a mitigation/rehabilitation program of moderate intensity.

Rates and amounts of timber harvest will be reduced to stabilize areas susceptible to earth flows.

## **Wildlife**

### **Wildlife**

Coordinate with other types of management to assure habitat for about 85 pairs of spotted owls, about 102 pileated woodpeckers, and about 231 pine martens.

Manage pine/oak area for wildlife species dependent on this type of habitat.

Mitigate potential adverse effects of harvesting timber.

## **Recreation**

### **Recreation**

Provide a "standard" level of service. This is intended to meet the demands of the public in a manner which is responsive to changing desires over time relative to the quality of recreational services and facilities provided.

Reduce rates and amounts of timber harvest in at least 20 of the Forest's 48 most sensitive viewsheds.

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them, including the unroaded areas described below.

## **Unroaded Areas**

### **Unroaded Areas**

No harvest is planned in the following unroaded areas.

Eagle  
Larch Mountain (half)  
Roaring River  
Olallie

## **Communities**

### **Communities**

Minimize change by maintaining current harvest levels for the short-run.

Insure that harvest levels do not drop more than 25% from decade to decade.

### **Designation of New Special Areas**

#### **Wild and Scenic River Recommendations**

- Clackamas River
- Salmon River

#### **Proposed Special Interest Areas**

- Face of the Columbia Gorge
- Larch Mountain
- Mitchell Flats/Roaring River
- Olallie Lake Expansion
- Bagby Hot Springs
- Barlow Road
- Little Crater Lake Expansion
- Lost Lake
- Parkdale Lava Beds
- Sugar Pine

#### **Proposed Research Natural Areas**

- None

### **Alternative E (Preferred)**

Alternative E is the Forest's preferred alternative. It is developed to reflect present land uses while meeting minimum management requirements. It is based on an assumption that past determinations of management emphasis in previous plans are still generally valid and effective when supplemented by the most recent laws and scientific information. It emphasizes the values of particular scenic corridors. Alternative E also reflects more recently identified needs to reduce timber harvest levels on some portions of the Forest in response to the issues of water quality, fish and wildlife. Recreation of all kinds would be available. Timber would be managed intensively where such intensive management has been planned in the past, including six of the presently unroaded areas. Timber harvest would often be used to help achieve other Forest objectives. In response to the community stability issue, the first decade annual timber harvest, scheduled at an allowable sale quantity (total ASQ) of 268 million board feet per year would be a departure which emphasizes production of volume above the Forest's long-term sustained yield capacity in the first decade.

### **Timber**

Permit a departure from nondeclining flow in order to produce as much timber as possible during the first decade from the suitable land base.

Maintain harvests at or above the long-term sustained yield capacity in every decade.

### **Designation of New Special Areas**

**Timber harvest :  
268 MMBF per year**

**Timber**

Generally use intensive management practices such as planting and thinning when it is economically efficient to do so.

## **Fish and Water**

### **Fish and Water**

Meet or exceed minimum management requirements for riparian and fishery resources.

Provide for modest, long-term increases in Forest-wide riparian resource (fish habitat, water quality, etc) capabilities.

A moderate mitigation and rehabilitation program will be coordinated with the accelerated timber harvest schedule

A forest-wide enhancement program will be initiated at highest priority sites.

Manage the Bull Run and The Dalles municipal watersheds, Fifteenmile Creek and Still Creek primarily for their water resources.

Apply a mitigation/rehabilitation program of moderate intensity.

Rates and amounts of timber harvest will be reduced to stabilize areas susceptible to earth flows.

## **Wildlife**

### **Wildlife**

Coordinate with other types of management to assure habitat for about 85 pairs of spotted owls, about 102 pileated woodpeckers, and about 231 pine martens.

Manage pine/oak areas to meet the needs of wildlife dependent on this type of habitat.

Mitigate potential adverse effects due to accelerated timber harvest.

## **Recreation**

### **Recreation**

Provide a "standard" level of service in order to meet the demands of the public in a manner which is responsive to changing desires.

Reduce rates and amounts of timber harvest in at least 31 of the Forest's 48 most sensitive viewsheds.

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them, including the unroaded areas described below.

## **Unroaded Areas**

### **Unroaded Areas**

No harvest is planned in the following unroaded areas.

Eagle  
Larch Mountain (half)  
Roaring River  
Olallie  
Wind Creek (half)

## **Communities**

Minimize change by incorporating existing management direction on nearly the entire Forest, and departing from non-declining flow of timber.

Insure that timber harvest levels do not drop more than 25% from decade to decade.

## **Designation of New Special Areas**

### **Wild and Scenic River Recommendations**

- Clackamas River
- Salmon River
- Roaring River

### **Proposed Special Interest Areas**

- Face of the Columbia Gorge
- Larch Mountain
- Mitchell Flats/Roaring River
- Olallie Lake Expansion
- Bagby Hot Springs
- Barlow Road
- Little Crater Lake Expansion
- Lost Lake
- Parkdale Lava Beds
- Squaw Meadows
- Sugar Pine

### **Proposed Research Natural Areas**

- Big Bend
- Bull Run Addition
- Gumjuwac-Tolo

## **Alternative F**

Alternative F was developed to respond primarily to the recreation Public Issue Group, especially the visual-quality aspects of the group. It is designed to meet the needs of visitors to the Forest for outdoor recreation in natural setting. Its main objective is to provide scenic landscapes that are visible from the Forest's travel routes and recreation sites. Although opportunities for hiking would be available under this alternative, the emphasis of management would be on roaded recreational opportunities. Timber harvesting would be used to achieve the visual management objectives. Natural appearing conditions would be perpetuated by periodic removal of small volumes of timber in areas that are visible. Higher levels of timber harvest would take place in areas of the Forest that are seldom seen. Timber harvest in the first decade will occur at an annual allowable sale quantity (total ASQ) of 178 million board feet. Benefits to wildlife and fish habitat would occur because of management of the land for scenic quality.

## **Communities**

## **Designation of New Special Areas**

## **Primary emphasis on recreation**



## **Timber**

### **Timber**

Produce timber on a nondeclining schedule after meeting other resource objectives.

Use intensive management practices such as planting and thinning only where economically efficient to do so.

## **Fish and Water**

### **Fish and Water**

Exceed minimum management requirements for riparian and fishery resources.

Provide for significant, long-term increases in Forest-wide riparian resource (fish habitat, water quality, etc.) capabilities.

The Bull Run Municipal Watershed will be managed for water quality.

Rates and amounts of timber harvest will be reduced to stabilize areas susceptible to earth flows.

## **Wildlife**

### **Wildlife**

Increase wildlife habitat for old growth dependent species above the minimum level.

Coordinate with other types of management to assure habitat for about 101 pairs of spotted owls, about 133 pileated woodpeckers, and about 300 pine martens.

Manage pine/oak area to meet the needs of wildlife which require such habitat.

## **Recreation**

Provide a "standard" level of service. This is intended to meet the demands of the public in a manner which is responsive to changing desires over time relative to the quality of recreational services and facilities provided.

Reduce rates and amount of timber harvest in at least 46 of the Forest's 48 most sensitive viewsheds.

Access will be provided to the unroaded portion of the Olallie Scenic Area for recreation.

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them, including the unroaded areas described below.

## **Unroaded Areas**

No harvest is planned in the following unroaded areas.

Eagle  
Larch Mountain (half)  
Roaring River  
Bull of the Woods

Harvest is deferred for at least 15 years in the following unroaded areas.

Larch Mountain (half)  
Wind Creek

## **Communities**

Provide convenient areas with recreation opportunities in a natural setting for visitors from urban areas, while maintaining compatible levels of timber harvest.

## **Designation of New Special Areas**

Wild and Scenic River Recommendations

- Clackamas River
- Salmon River

Proposed Special Interest Areas

- Face of the Columbia Gorge
- Larch Mountain
- Barlow Road
- Lost Lake
- Parkdale Lava Beds
- Squaw Meadows
- Sugar Pine

Proposed Research Natural Areas

- Big Bend
- Bull Run Addition
- Gumjuwac-Tolo

## **Recreation**

## **Unroaded Areas**

## **Communities**

## **Designation of New Special Areas**

## **Alternative G**

### **Response to all public issues**

This alternative is designed to respond moderately well to all public issues. Public issues related to water quality, fish, wildlife, recreation, and unroaded resources would be addressed under the objectives and guidelines contained in current plans on most areas of the Forest. This is intended to assure that the most important areas have been selected to manage for these resources. This alternative manages the land for the same uses as Alternative E. However, it schedules timber harvest on the basis of nondeclining yield at an annual allowable sale quantity (total ASQ) of 235 million board feet. It does so to maintain options to respond in the future to other public issues related primarily to unroaded areas and wildlife habitat.

### **Timber**

#### **Timber**

Incorporate management direction from existing land use plans.

Harvest timber on a nondeclining schedule, after meeting other resource objectives.

Use intensive management practices such as planting and thinning only where economically efficient to do so.

### **Fish and Water**

#### **Fish and Water**

Meet or exceed minimum management requirements for riparian and fishery resources.

Provide for modest, long-term increases in Forest-wide, riparian resource (fish habitat, water quality, etc.) capability.

A moderate mitigation and rehabilitation program will be implemented.

A Forest-wide enhancement program will be initiated at highest priority sites.

Manage the Bull Run and The Dalles Municipal Watersheds, Fifteenmile Creek and Still Creek primarily for their water resources.

Apply a mitigation/rehabilitation program of moderate intensity.

Rates and amounts of timber harvest will be reduced to stabilize areas susceptible to earth flows.

### **Wildlife**

#### **Wildlife**

Coordinate with other types of management to assure habitat for about 85 pairs of spotted owls, about 102 pileated woodpeckers, and about 231 pine martens.

Manage pine/oak areas for wildlife purposes.

#### **Recreation**

Provide a "standard" level of service. This is intended to

meet the demands of the public in a manner which is responsive to changing desires over time relative to the quality of recreational services and facilities provided.

Reduce rates and amounts of timber harvest in at least 31 of the Forest's 48 most sensitive viewsheds.

## Recreation

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them, including the unroaded areas described below.

### Unroaded Areas

No harvest is planned in the following unroaded areas.

Eagle  
Larch Mountain (half)  
Roaring River  
Olallie  
Wind Creek (half)

## Unroaded Areas

Harvest is deferred for at least 15 years in the following unroaded areas.

Larch Mountain (half)  
Wind Creek (half)  
Twin Lakes

### Communities

Minimize change by incorporating existing management direction on nearly the entire Forest, and scheduling compatible levels of timber harvest.

## Communities

### Designation of New Special Areas

#### Wild and Scenic River Recommendations

- Clackamas River
- Salmon River
- Roaring River

#### Proposed Special Interest Areas

- Face of the Columbia Gorge
- Larch Mountain
- Mitchell Flats/Roaring River
- Olallie Lake Expansion
- Bagby Hot Springs
- Barlow Road
- Little Crater Lake Expansion
- Lost Lake
- Parkdale Lava Beds
- Squaw Meadows, Sugar Pine

## Designation of New Special Areas

#### Proposed Research Natural Areas

- Big Bend
- Bull Run Addition
- Gumjuwac-Tolo

## **Alternative H**

### **Old growth timber preserved**

Alternative H is developed to supply recreational opportunities in primitive or natural settings, away from roads and other major evidence of human activity. It precludes future development in all presently unroaded areas and in places on the Forest adjacent to Wildernesses and unroaded areas that also offer primitive and semi-primitive nonmotorized recreation opportunities. Alternative H would also preserve existing old-growth timber stands as a diminishing biological and cultural resource. Retaining old growth would provide complementary benefits for fish and wildlife habitats, and maintain or improve scenic quality. Timber would be harvested at an annual allowable sale quantity (total ASQ) of 69 million board feet (first decade) in areas where it has been removed in the past, and where it would not conflict with the needs of dispersed recreational activities.

### **Timber**

#### **Timber**

Harvest timber in areas where timber has been cut in the past, provided that these harvests will not conflict with other resource objectives.

Use intensive management practices such as planting and thinning only where it is economically efficient to do so.

### **Fish and Water**

#### **Fish and Water**

Exceed minimum management requirements for riparian and fishery resources.

Provide for significant, long-term increases in Forest-wide riparian resource (fish habitat, water quality, etc.) capability.

Apply an aggressive program to eliminate the backlog of rehabilitation projects and actively pursue most enhancement opportunities.

The Bull Run Municipal Watershed will be managed for water quality.

Rates and amounts of timber harvest will be reduced to stabilize areas susceptible to earth flows.

### **Wildlife**

#### **Wildlife**

Increase habitat for old-growth dependent species. Assure habitat for about 148 pairs of spotted owls, about 102 pileated woodpeckers, and about 231 pine martens.

Manage the pine/oak area to meet the needs of wildlife which depend on this habitat.

### **Recreation**

#### **Recreation**

Provide a "standard" level of service. This is intended to meet the demands of the public in a manner which is responsive to changing desires over time relative to the quality of recreational services and facilities provided.

Reduce rates and amount of timber harvest in at least 44 of the Forest's 48 most sensitive viewsheds.

Provide for maximum semi-primitive recreation opportunities obtainable from all areas which presently provide them. Existing opportunities will be maintained by allowing no further development in areas adjacent to some unroaded areas and wildernesses.

#### **Unroaded Areas**

No harvest is planned in any of the unroaded areas.

#### **Communities**

Provide a natural environment for public use, while maintaining compatible levels of timber harvest.

#### **Designation of New Special Areas**

##### **Wild and Scenic River Recommendations**

- Clackamas River
- Salmon River

##### **Proposed Special Interest Areas**

- Face of the Columbia Gorge
- Bagby Hot Springs
- Barlow Road
- Parkdale Lava Beds

##### **Proposed Research Natural Areas**

- Big Bend
- Bull Run Addition
- Gumjuwac-Tolo

#### **Alternative I**

Alternative I is developed primarily to provide for fish and wildlife habitat needs. In all areas considered important for fish and wildlife, maximum habitat capability to achieve stocking objectives would be achieved by precluding timber harvest, extending rotation or otherwise modifying timber management practices. First decade allowable sale quantity (total ASQ) would be 147 million board feet per year. The needs of animal species which require open areas would be met by continued timber harvest elsewhere on the Forest and by habitat improvement projects. All unroaded areas would be kept free of roads to provide the security for wildlife as well as opportunities for recreation in an unroaded setting.

#### **Timber**

Produce timber on a nondeclining schedule after meeting other resource objectives.

Use intensive management practices such as planting and thinning only where it is economically efficient to do so.

#### **Unroaded Areas**

#### **Communities**

#### **Designation of New Special Areas**

#### **Fish and wildlife habitat emphasized**

#### **Timber**



## **Fish and Water**

### **Fish and Water**

Meet maximum habitat requirements for riparian and fisheries resources.

Provide for substantial, long-term increases in Forest-wide riparian resource (fish habitat, water quality, etc.) capability.

Apply an aggressive program to quickly eliminate the backlog of rehabilitation projects and actively pursue all enhancement opportunities.

The Bull Run Municipal Watershed will be managed for water quality.

Rates and amounts of timber harvest will be reduced to stabilize areas susceptible to earth flows.

## **Wildlife**

### **Wildlife**

Maintain old-growth area and distribution above minimum levels.

Coordinate with other types of management to assure habitat for about 120 pairs of spotted owls, about 163 pileated woodpeckers, and about 369 pine martens.

Manage pine/oak areas exclusively to meet wildlife needs.

## **Recreation**

### **Recreation**

Provide a "standard" level of service. This is intended to meet the demands of the public in a manner which is responsive to changing desires over time relative to the quality of recreational services and facilities provided.

Reduce rates and amount of timber harvest in at least 47 of the Forest's 48 most sensitive viewsheds.

Provide for maximum semi-primitive recreation opportunities obtainable from areas which can support them, including all unroaded areas.

### **Unroaded Areas**

No harvest is planned in any of the identified unroaded areas.

### **Unroaded areas**

### **Communities**

Promote healthy and diverse wildlife populations in conjunction with promoting outdoor recreational use of the Forest, and maintaining compatible levels of timber harvest to occur.

### **Communities**

### **Designation of New Special Areas**

#### **Wild and Scenic River Recommendations**

- Clackamas River
- Salmon River
- White River
- Roaring River

#### **Proposed Special Interest Areas**

- Face of the Columbia Gorge
- Larch Mountain
- Mitchell Flats/Roaring River
- Olallie Lake Expansion
- Bagby Hot Springs
- Barlow Road
- Little Crater Lake Expansion
- Lost Lake
- Parkdale Lava Beds
- Squaw Meadows
- Sugar Pine
- Cloud Cap/Tilly Jane
- Clackamas Lake Ranger Station

### **Designation of New Special Areas**

#### **Proposed Research Natural Areas**

- Big Bend
- Bull Run Addition
- Gumjuwac-Tolo

#### **Proposed Wilderness Area**

- Olallie (unroaded portion)

---

## **Management Areas**

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Each alternative is implemented through application of various management prescriptions applied to the lands on the Forest. A management prescription is a cost-efficient combination of management practices and intensities selected and scheduled to attain certain goals and objectives. A man-

**Management Area defined**

agement area is comprised of portions of the Forest managed under a common prescription. In essence, the management area is a unit of land to be managed for certain goals and objectives, to achieve or maintain a desired condition in the future. Although certain resources are emphasized, each management area provides for a combination of uses. The management area locations can be found on the alternative maps, and the supplementary wildlife resource map.

There are 22 different management areas proposed for implementation on the Forest in one or more alternative forest plans. The management areas are grouped into three categories according to the type and degree of planned development for each area. These categories (labeled A, B, C) represent broad differences in the use, emphasis, and objectives for each area.

A listing of the Management Areas in each category is presented in Table 3. A more complete description is found on the alternative maps. Detailed descriptions of the standards and practices to be applied in these areas are found in the proposed Forest Land and Resource Management Plan. Acres in each of these Management Areas for each alternative are then displayed in Table 4A (all land on the Forest) and Table 4B (land tentatively suitable for timber harvest). Lands suitable for timber harvest are identified on a map included with the alternative maps.

**Acreages vary by alternative**

Acreages in the different management areas vary by alternative, reflecting the differences in emphasis of the alternatives. The alternatives are arrayed in Tables 4A and 4B and later tables according to the number of suitable acres that will be managed for timber. Figure 1 compares the differences among the alternatives' management area acreages graphically.

### Table 3

## MANAGEMENT AREAS AND CATEGORIES

For more complete descriptions of Management areas, see legends on maps.

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#### Management Category A:

Management activities will be designed to meet objectives for resources other than timber and often result in natural or near-natural conditions over time. Chargeable timber harvest will not be permitted.

- A1 - Bull Run Planning Unit<sup>1</sup>
- A2 - Wilderness
- A3 - Research Natural Areas
- A4 - Special Interest Areas
- A5 - Unroaded Recreation
- A6 - Roaded Recreation (*no timber harvest*)
- A7 - Old Growth
- A8 - Northern Spotted Owl Habitat
- A9 - Key Site Riparian Habitat
- A10 - Developed Recreation Sites
- A11 - Winter Recreation Areas
- A12 - Outdoor Education

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#### Management Category B:

Management activities will achieve objectives of timber and other resources. Chargeable timber harvest is permitted, but will not achieve full productive capability.

- B1 - Wild<sup>2</sup>, Scenic and Recreational Rivers
- B2 - Scenic Viewsheds
- B3 - Roaded Recreation (*reduced timber harvest*)
- B4 - Pine/Oak Wildlife Habitat
- B5 - Pileated Woodpecker/Pine Marten Habitat
- B6 - Special Emphasis Areas
- B7 - General Riparian Areas
- B8 - Earth Flows
- B9 - Wildlife/Visual

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#### Management Category C:

Chargeable timber harvest to achieve an economically efficient sustained yield of timber, while meeting minimum legal requirements for protection of other resources.

- C1 - Timber Emphasis

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<sup>1</sup> Harvest to meet timber objectives would occur in the buffer zone, as provided for in the existing Bull Run Final Environmental Impact Statement.

<sup>2</sup> Wild Segments have no planned timber harvest. Scenic and Recreational Segments do schedule timber harvest.

**Table 4a**  
**ACREAGE IN MANAGEMENT AREA BY ALTERNATIVE**

(Alternatives are listed left-to-right in accordance with most suitable acres in the timber base.)  
(NE indicates Not Estimated)

MANAGEMENT AREA	TOTAL ACRES									
	NC No Change	C	B RPA	D	E Preferred	G	A No Action	F	I	H
CATEGORY A										
A1 - Bull Run <sup>1</sup>	90,600	0	90,600	90,600	90,600	90,600	90,600	90,600	90,600	90,600
A2 - Wilderness <sup>2</sup>	185,300	185,300	185,300	185,300	185,300	185,300	185,300	185,300	193,400	185,300
A3 - RNA <sup>3</sup>	NE	1,300	1,300	1,300	1,300	1,300	1,650	1,200	1,050	1,300
A4 - SIA	NE	50	50	52,750	54,950	54,950	58,250	22,850	38,850	26,000
A5 - Unroaded Rec.	NE	0	0	1,500	5,950	5,950	0	39,000	49,700	80,950
A6 - Roaded Rec.	NE	0	0	1,500	750	750	0	20,850	31,200	44,500
A7 - Old Growth	NE	0	0	0	0	0	0	0	0	130,700
A8 - Spotted Owl <sup>4</sup>	NE	43,400	37,350	37,350	37,350	37,350	37,350	47,300	62,600	37,350
A9 - Key Sites <sup>5</sup>	NE	10,100	9,200	11,700	11,700	11,700	9,200	18,700	21,700	11,700
A10 - Dev. Rec.	NE	650	650	650	650	650	650	650	650	650
A11 - Winter Rec.	NE	6,450	6,450	6,450	6,450	6,450	6,450	6,250	5,950	6,450
A12 - Outdoor Ed.	NE	450	450	450	450	450	450	450	450	450
Subtotal "A"	402,950	247,700	331,350	389,550	395,450	395,450	389,900	433,150	496,150	615,950
CATEGORY B										
B1 - W/S Rivers	NE	0	0	18,200	18,200	18,200	5,550	15,450	16,750	15,950
B2 - Viewsheds	NE	0	0	46,050	102,500	102,500	139,650	235,500	166,050	96,550
B3 - Roaded Rec.	NE	0	0	0	750	750	0	0	0	0
B4 - Pine/Oak	NE	0	0	15,600	14,850	14,850	0	6,750	5,300	5,200
B5 - Woodpecker Pine Marten <sup>4</sup>	NE	68,800	61,000	61,000	61,000	61,000	61,000	80,700	90,550	61,000
B6 - Watershed	NE	0	0	23,000	34,900	34,900	0	57,150	56,500	31,950
B7 - Gen. Rip. <sup>4</sup>	NE	72,700	66,500	66,500	66,500	66,500	66,500	88,650	116,000	66,500
B8 - Earthflows	NE	0	0	16,350	16,350	16,350	0	14,100	12,350	7,800
B9 - Wildlife/Visual	NE	0	0	0	4,450	4,450	0	0	0	0
Subtotal "B"	317,700	141,500	127,500	246,700	319,500	319,500	272,700	498,300	463,500	284,950
CATEGORY C										
C1 - Timber Emphasis	338,750	670,200	600,550	423,150	344,450	344,450	396,800	127,950	99,750	158,500
"A" + "B" + "C"	1,059,400	1,059,400	1,059,400	1,059,400	1,059,400	1,059,400	1,059,400	1,059,400	1,059,400	1,059,400
Area Managed for Timber	656,450	608,300	561,200	521,200	513,900	513,400	508,800	488,300	425,900	278,600

<sup>1</sup> An additional 4,400 acres of non-Federal land occur in the Bull Run. In alternative C, the Bull Run Municipal Watershed will be managed for timber production (C1), except for those areas needed to meet minimum management requirements.

<sup>2</sup> An additional 700 acres of non-Federal land occur within the boundaries of existing Wilderness.

<sup>3</sup> The acreage of three RNA's proposed in several alternatives is not reflected in this chart because the sites lie inside A1 - Bull Run and A2 - Wilderness management areas.

<sup>4</sup> This management area satisfies a minimum management requirement. MMRs may also be satisfied by other management areas, such as A2 - Wilderness. In some alternatives, these A8, A9, B5 and B7 management areas include more than the acreage needed to satisfy minimum management requirements.

<sup>5</sup> The NC alternative, which is based on the current Timber Management Plan, allocates 4,600 acres to be managed for riparian objectives which are similar to those associated with Management Area A9.

<sup>6</sup> Includes land in management area categories B and C, but does not include those portions of these management areas that have been identified as unsuitable for timber management. The distribution of suitable timber lands by management area category is provided in Table 4B.

**Table 4b**

**MANAGEMENT OF ACRES TENTATIVELY SUITABLE FOR TIMBER PRODUCTION**

	ALTERNATIVE									
	NC	C	B	D	E	G	A	F	I	H
	No Change		RPA		Preferred		No Action			
A. Tentatively suitable for timber production	753,000	647,200	647,200	647,200	647,200	647,200	647,200	647,200	647,200	647,200
B. Unsuitable										
1. Category A	96,500	38,900	86,000	126,000	133,300	133,200	121,000	158,100	220,600	355,500
2. Not cost-efficient <sup>1</sup>	0	0	0	0	100	600	17,400	800	700	13,100
Total Unsuitable	96,500	38,900	86,000	126,000	133,300	133,800	138,400	158,900	221,300	368,600
C. Suitable										
1. Category B	317,700 <sup>3</sup>	92,400	84,600	152,000	203,900	203,400	123,800	374,100	339,000	148,500
2. Category C	338,800 <sup>4</sup>	515,900	476,600	369,200	310,000	310,000	385,000	114,200	86,900	130,100
Total Suitable <sup>2</sup>	656,500	608,300	561,200	521,200	513,900	513,400	508,800	488,300	425,900	278,600

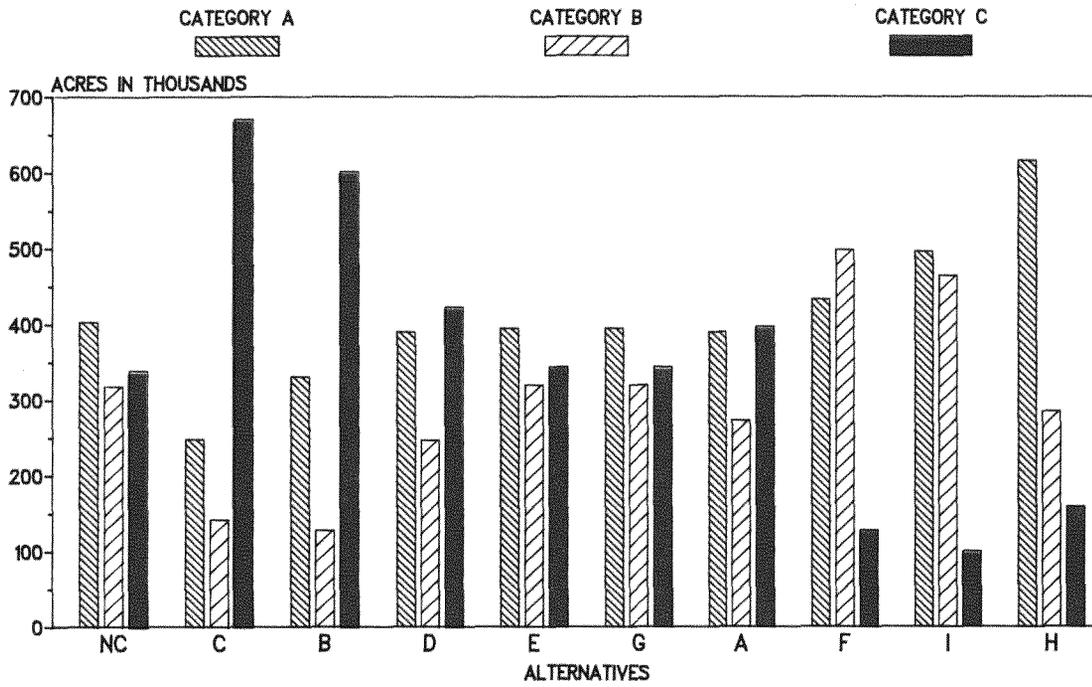
<sup>1</sup> Given the economic assumptions upon which the FORPLAN model operated, these acres were not selected for harvest. These represent areas which are potentially available for harvest, given changes in assumptions about costs and/or prices.

<sup>2</sup> In order to facilitate the comparison of alternatives, they are often arrayed in tables and graphs in terms of the total of Category B and Category C acres.

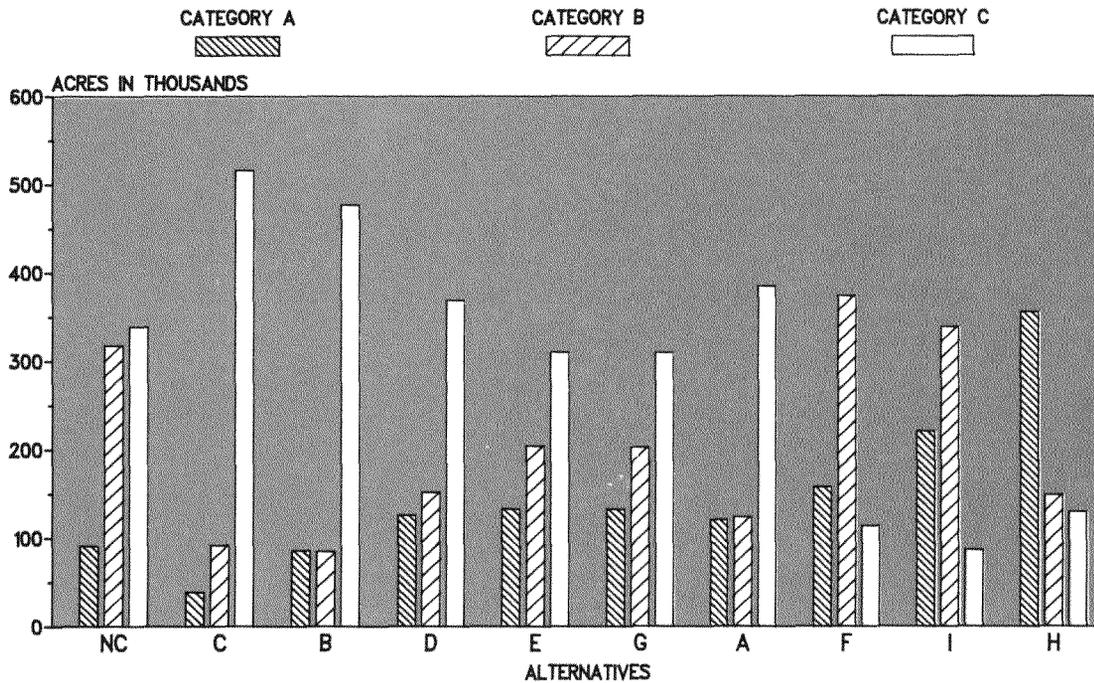
<sup>3</sup> The existing Timber Management Plan refers to these as the "marginal" component and "special" component.

<sup>4</sup> The existing Timber Management Plan refers to these as the "standard" component.

**Figure 1A**  
**TOTAL FOREST ACRES**  
**BY MANAGEMENT AREA CATEGORY**



**Figure 1B**  
**ACRES TENTATIVELY SUITABLE FOR TIMBER PRODUCTION**  
**BY MANAGEMENT AREA CATEGORY**



# Section IV: Outputs and Effects

The Forest Plan provides direction and standards that will apply to the Forest as a whole, and to each management area. The purpose of this direction is to accomplish the objectives of the selected alternative, while mitigating the effects of management activities on the environment. The results of managing the Forest under each alternative can be compared in terms of the outputs produced by management activities and the environmental impacts that result.

Chapter II of the DEIS compares the alternatives in terms of both the significant outputs and effects, while Chapter IV focuses in more detail on only the environmental impacts. The information provided here draws primarily upon the comparisons of alternatives provided in Chapter II.

**Basis for alternative comparisons:**

**Outputs and environmental impacts**

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## Current Management

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One of the alternatives that the Forest must consider is the alternative of continuing to manage under current direction. The range of alternatives includes two interpretations of current management direction. The first, represented by Alternative NC (No Change), is the continuation of management under the existing Timber Management Plan that was prepared in 1977. This alternative is not considered a realistic alternative, however, because it does not reflect legal requirements arising from the National Forest Management Act of 1976 and its subsequent regulations. For this reason, Alternative A (No Action) was developed. Alternative A is based on existing plans, including the Timber Management Plan, but these plans are updated to reflect new legal requirements.

**Alternative NC: not realistic**

**Alternative A: existing plans updated**

The most significant new requirements are criteria for determining the suitability of land for timber harvest and minimum management requirements for resource protection. The effects of these requirements on management of the Forest are substantial. They reduce the area available for timber harvest, and they reduce the amount of timber that can be produced from some portions of the Forest. These effects are summarized in the following table. To some extent these effects also reflect differences in the assumptions used in preparing the Timber Management Plan and the proposed Forest Plan.

**Minimum management requirements**

**Table 5**  
**CURRENT MANAGEMENT**  
**AS REPRESENTED BY ALTERNATIVES NC AND A**

	Alternative NC	Alternative A
Area identified as potentially suitable and available for timber management (in thousands of acres)	753	647
Area to actually be managed for timber to be offered in first decade (in thousands of acres)	656	525
Annual allowable sale quantity of timber to be offered in first decade (in millions of board feet per year)	356	243

Alternative NC is the only alternative that does not reflect existing laws and regulations. Its purpose is to show the effects of these laws and regulations on this Forest. In considering and comparing other alternatives, it is necessary to keep in mind that they can not be directly compared to past management because of these differences.

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## **Response to the Public Issues**

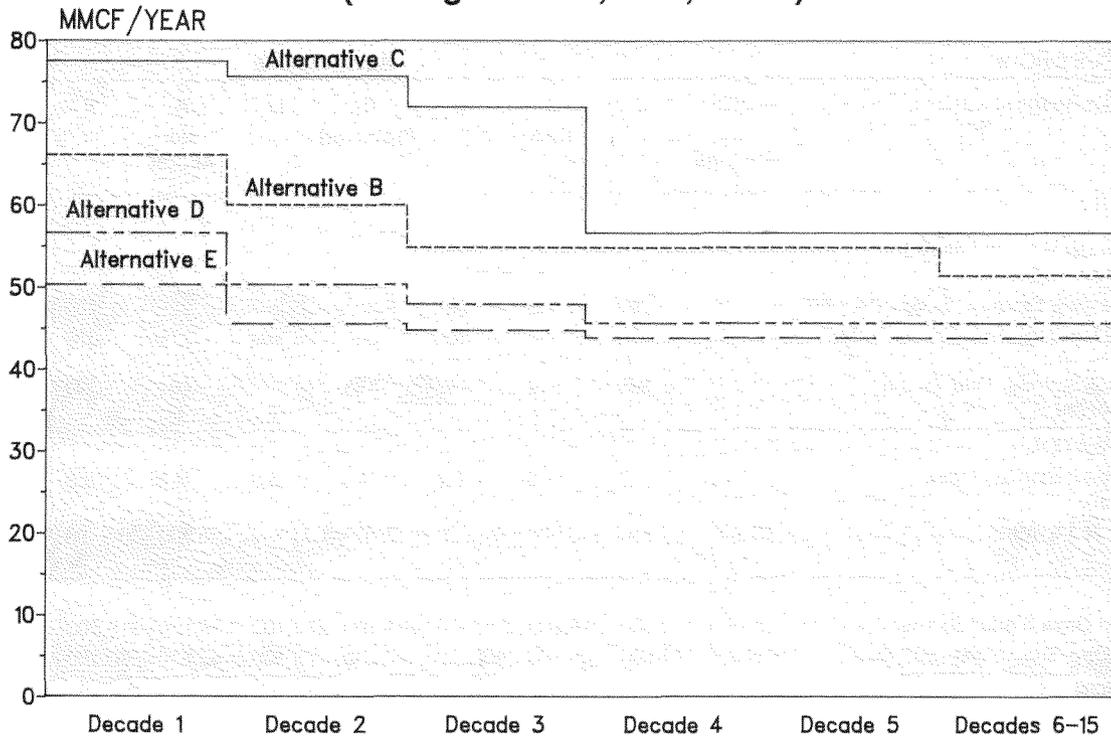
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Alternative management plans were designed to address the public issues in different ways. Alternatives can best be compared to each other by identifying how well each alternative responds to all of the Public Issue Groups. The "indicators of responsiveness" to the public issues, described previously, have been used for this purpose in Table 6. The alternatives have been arrayed according to the amount of land to be managed for timber production. Figures 2a-7b present the indicators of responsiveness to the public issues graphically.

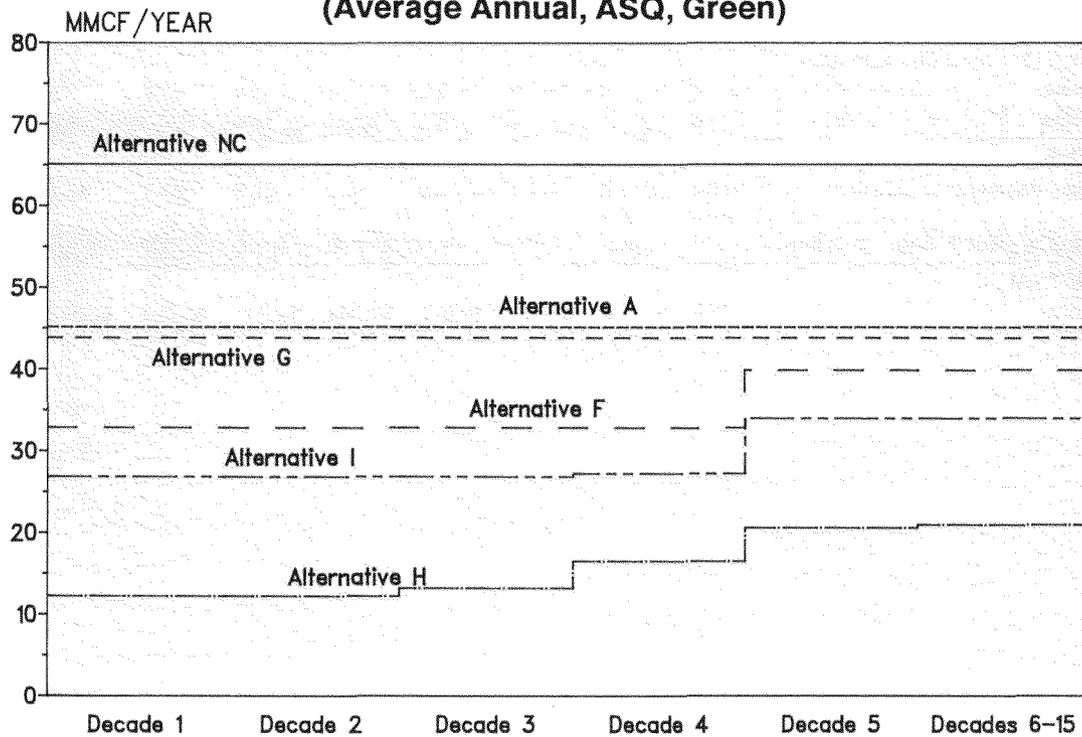
**Table 6**  
**INDICATORS OF HOW THE ALTERNATIVES RESPOND TO THE PUBLIC ISSUES**

PUBLIC ISSUE GROUP	ALTERNATIVE									
Indicators of Responsiveness	NC No Change	C	B RPA	D	E Preferred	G	A No Action	F	I	H
<b>TIMBER</b>										
Average Annual Volume Offered First Decade:										
Allowable Sale Quantity, Green (MMBF)	339	393	335	287	255	222	229	166	136	62
Timber Sale Program Quantity (MMBF)	443	493	444	385	347	307	316	239	202	108
Long-Term Sustained Yield Capacity (MMCF/decade)	651	565	514	456	438	438	469	399	340	209
<b>FISH AND WATER</b>										
Aquatic Habitat Stability Index (10=Highest)	0.9	1.2	1.3	2.7	3.5	3.8	3.3	8.0	9.2	7.9
Acres Allocated to Meet Riparian Objectives	95,200	82,800	166,300	191,800	203,700	203,700	166,300	255,100	284,800	200,800
<b>WILDLIFE</b>										
Acres of Old Growth after 50 Years	228,000	193,500	216,200	249,900	264,300	273,100	276,100	315,900	342,400	409,300
Acres of Young Growth after 50 Years	105,000	101,800	85,200	87,800	67,400	73,300	68,400	60,200	62,600	36,000
<b>RECREATION</b>										
Expected Visual Condition After 50 Years										
Sensitive Viewsheds Appearing Natural	10	5	5	11	17	17	12	24	30	38
Sensitive Viewsheds Appearing Slightly Altered	2	2	2	9	14	14	4	22	17	6
Dispersed, Semi-Primitive Recreation Opportunities after 50 Years										
Motorized (M RVDs/year)	8	0	0	8	9	9	7	13	20	28
Nonmotorized (M RVDs/year)	61	3	3	54	75	75	59	105	157	206
<b>UNROADED AREAS</b>										
Areas Retaining Unroaded Characteristics										
After 15 Years	4	1	1	3.5	4	6	7	5	10	10
After 50 Years	4	0	0	3.5	4	4	4	3.5	10	10
<b>COMMUNITIES</b>										
Average Annual Payments to Counties (Millions)	\$11.4	\$12.7	\$11.4	\$9.9	\$8.9	\$7.9	\$8.1	\$6.2	\$5.2	\$2.8
Change in Employment (Number of Jobs)	+500	+3,700	+1,800	+800	+200	-500	-300	-1,700	-2,300	-3,900
<b>PRESENT NET VALUE</b>										
Millions of Dollars	\$2,998	\$3,015	\$2,932	\$2,972	\$2,944	\$2,941	\$2,952	\$2,822	\$2,762	\$2,501

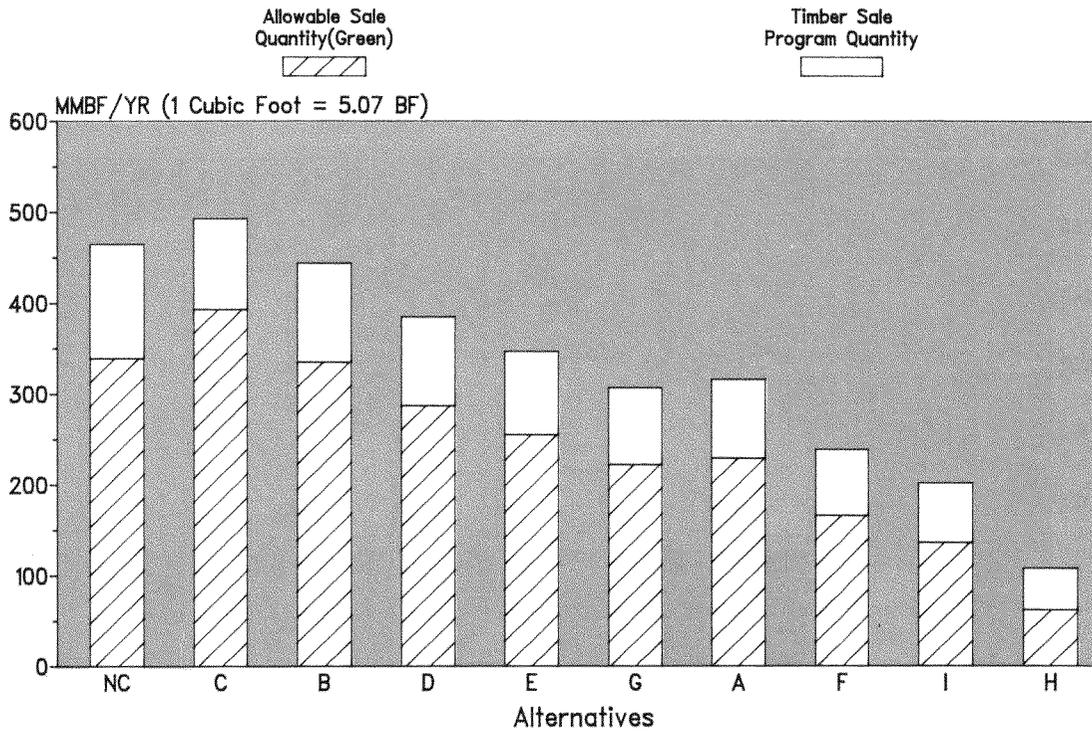
**Figure 2A**  
**TIMBER HARVEST SCHEDULE: Departure Alternatives**  
**(Average Annual, ASQ, Green)**



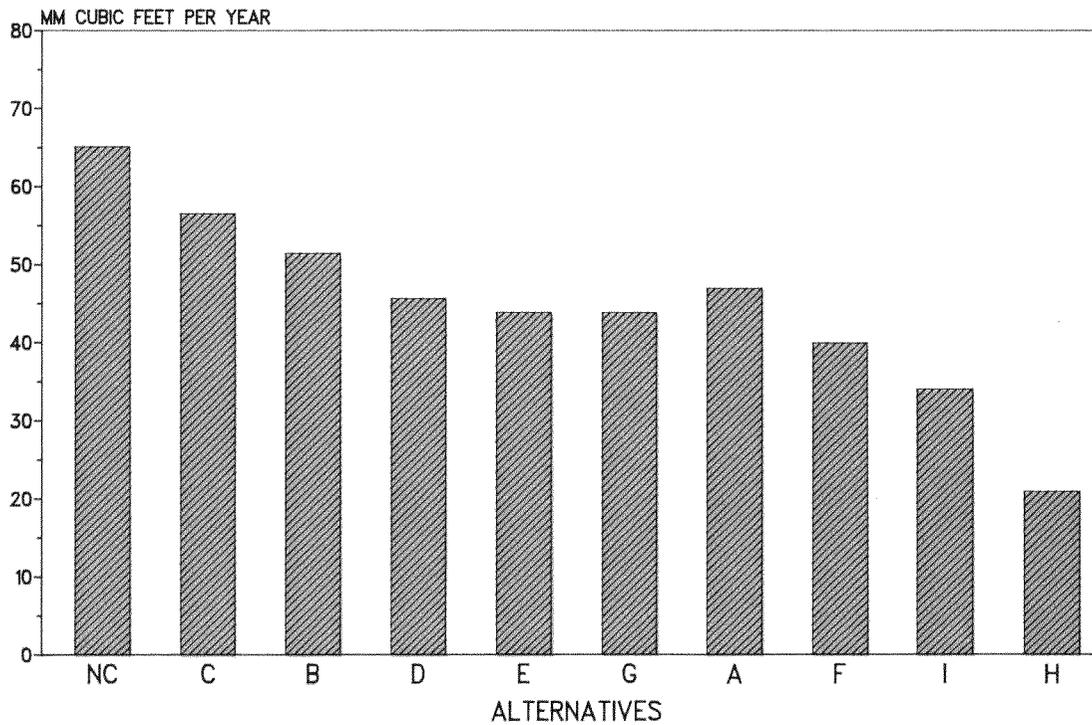
**Figure 2B**  
**TIMBER HARVEST SCHEDULE: Non-decline Alternatives**  
**(Average Annual, ASQ, Green)**



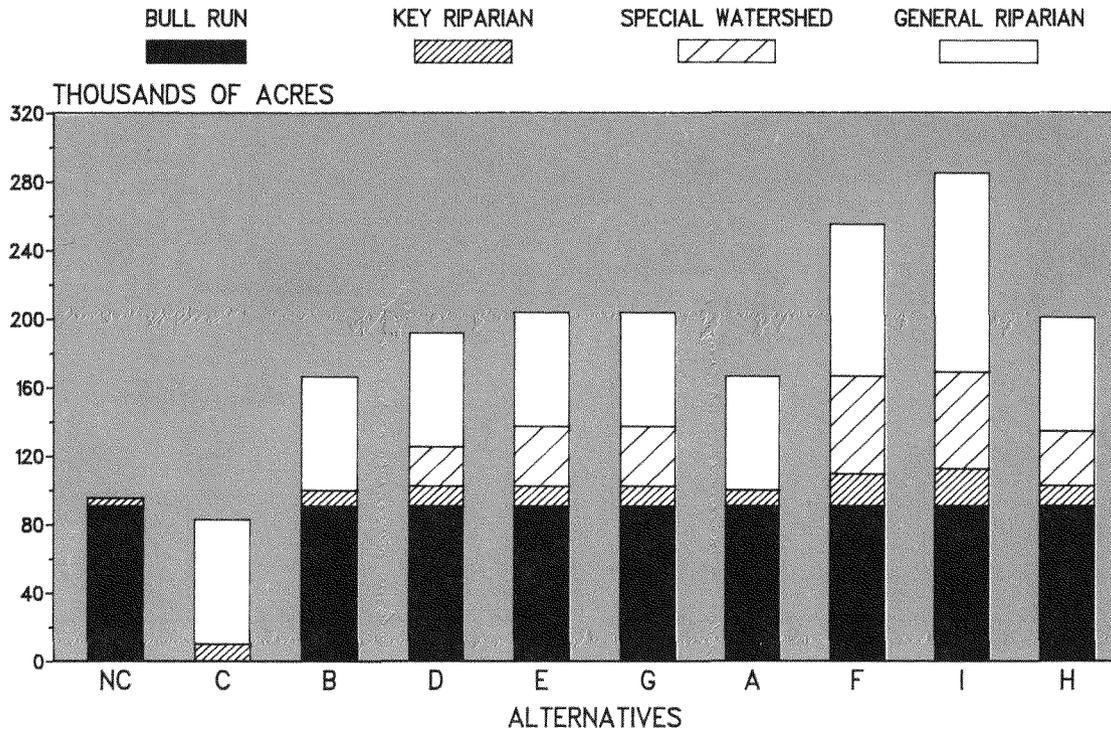
**Figure 2C**  
**AVERAGE ANNUAL TIMBER VOLUME OFFERED, FIRST DECADE**



**Figure 2D**  
**LONG TERM SUSTAINED YIELD CAPACITY (LTSYC)**



**Figure 3A**  
**ACRES ALLOCATED TO RIPARIAN MANAGEMENT**



**Figure 3B**  
**AQUATIC HABITAT STABILITY INDEX**  
 (10 = Most Stable)

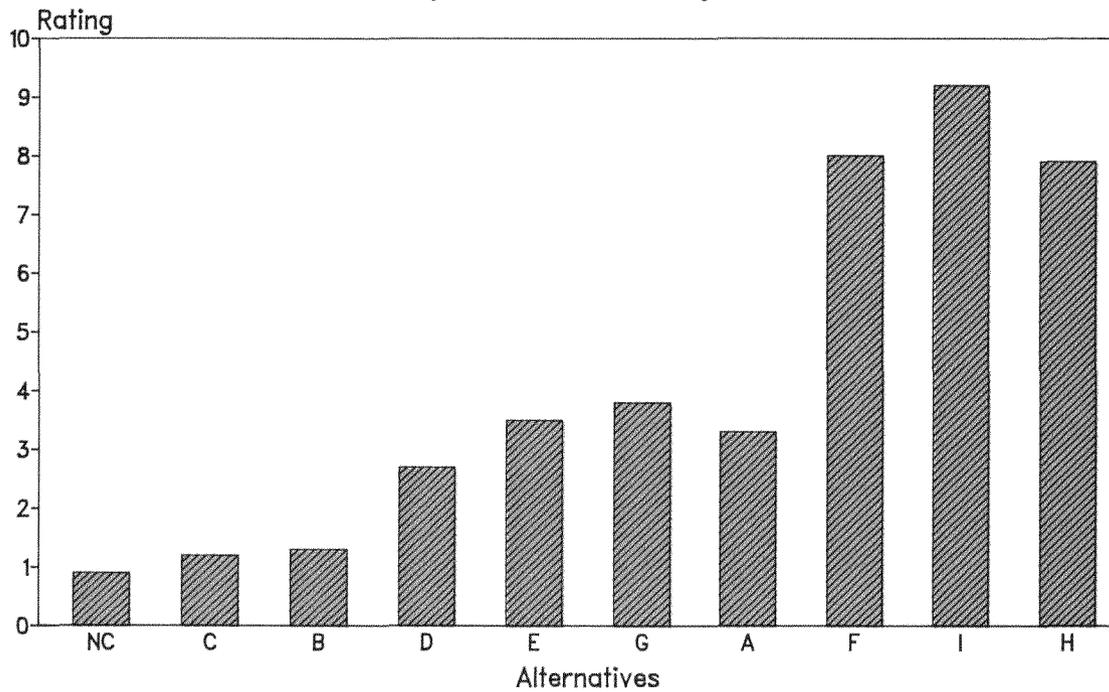
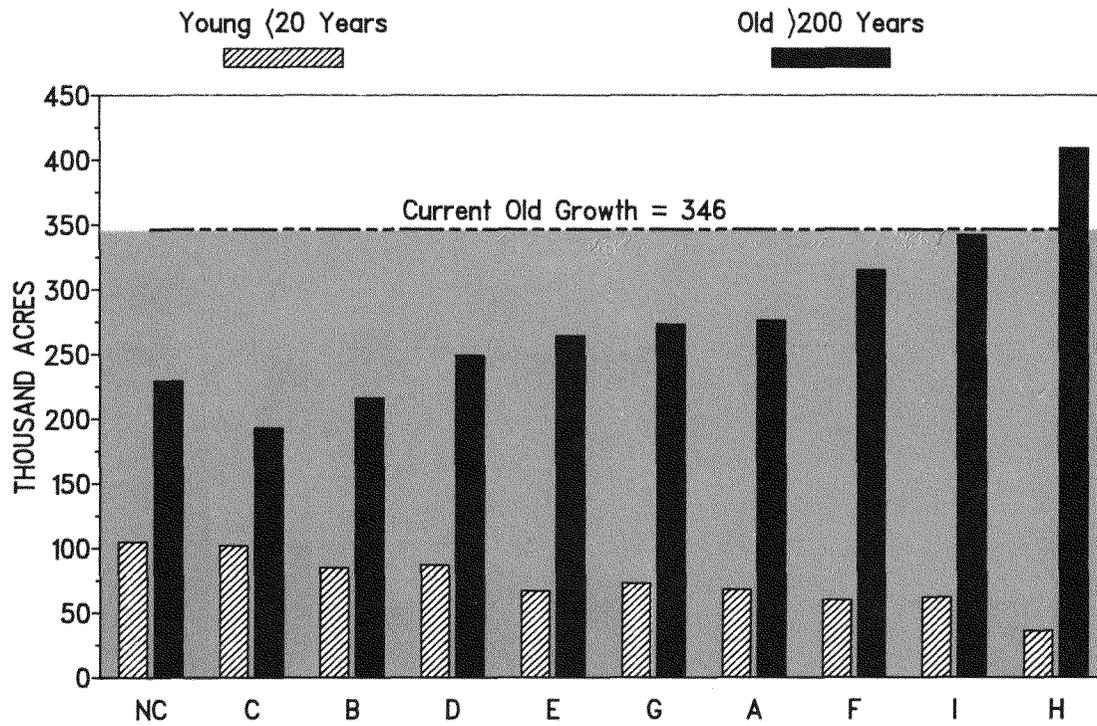
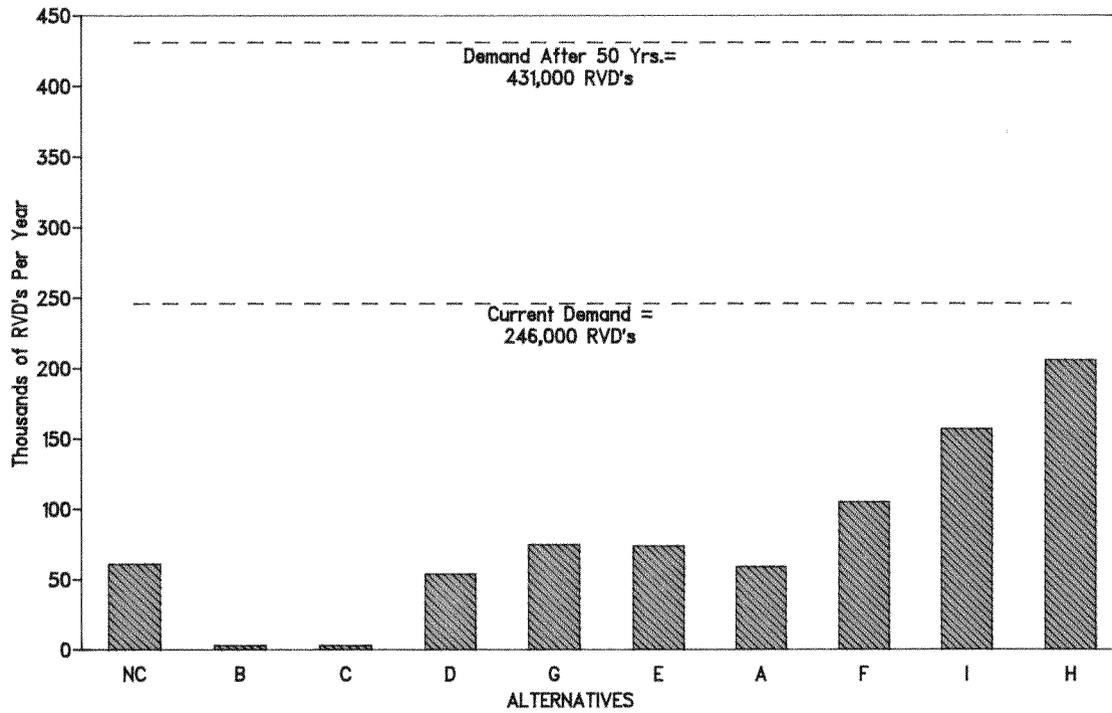


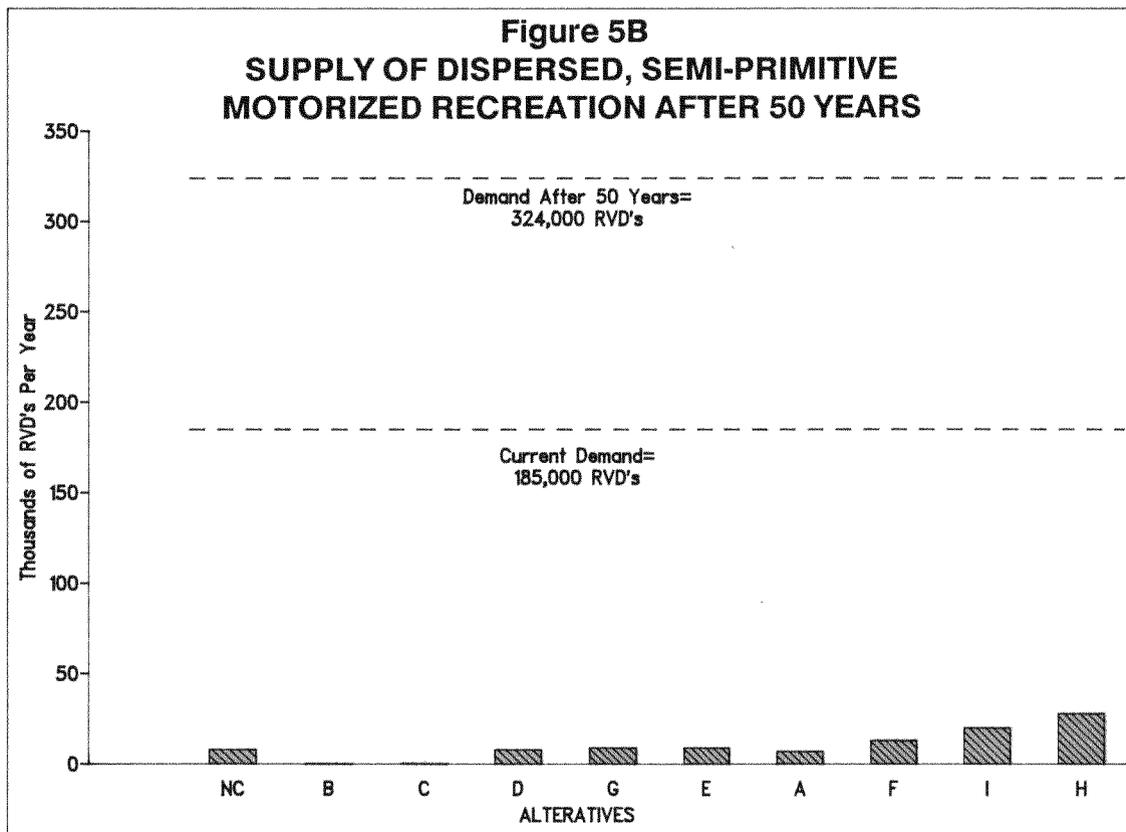
Figure 4  
YOUNG AND OLD GROWTH AFTER 50 YEARS



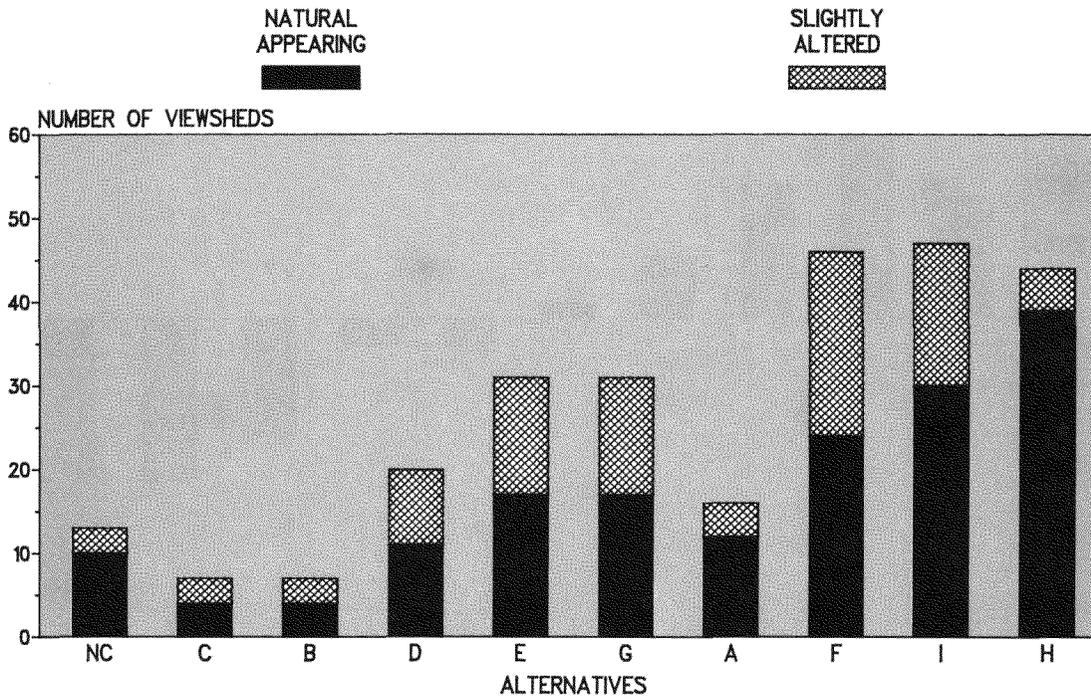
**Figure 5A**  
**SUPPLY OF DISPERSED, SEMI-PRIMITIVE**  
**NON-MOTORIZED RECREATION AFTER 50 YEARS**



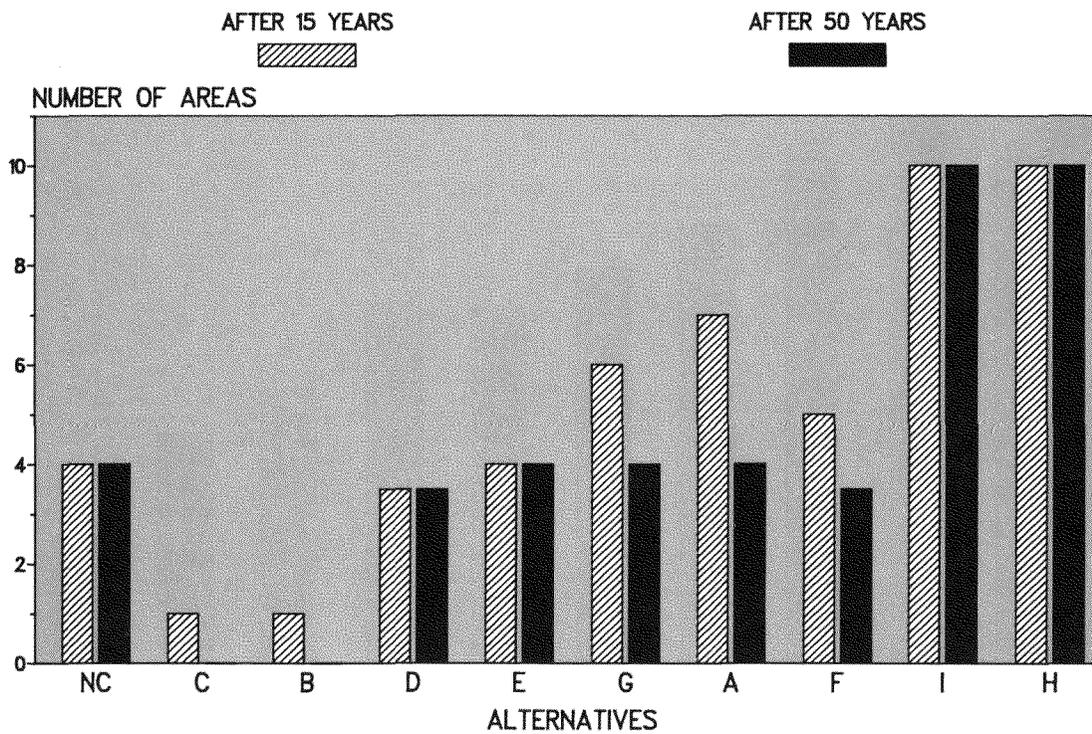
**Figure 5B**  
**SUPPLY OF DISPERSED, SEMI-PRIMITIVE**  
**MOTORIZED RECREATION AFTER 50 YEARS**



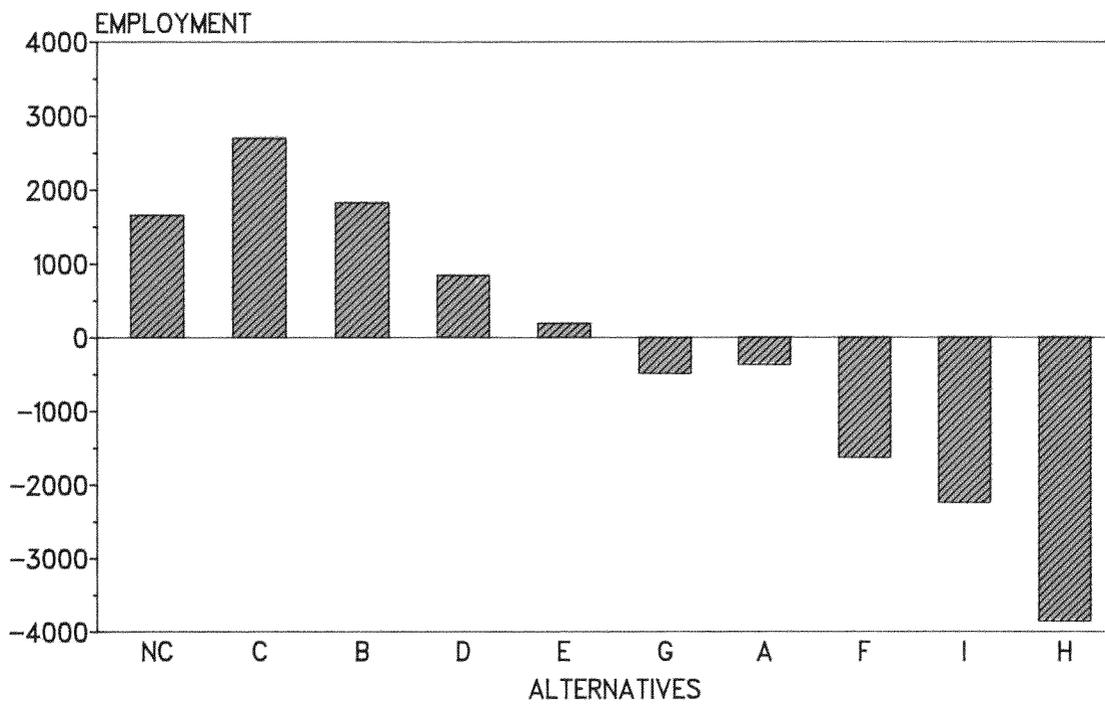
**Figure 5C**  
**EXPECTED FUTURE CONDITION OF THE FOREST'S VIEWSHEDS**  
 (48 of the Forest's most visually sensitive viewsheds)



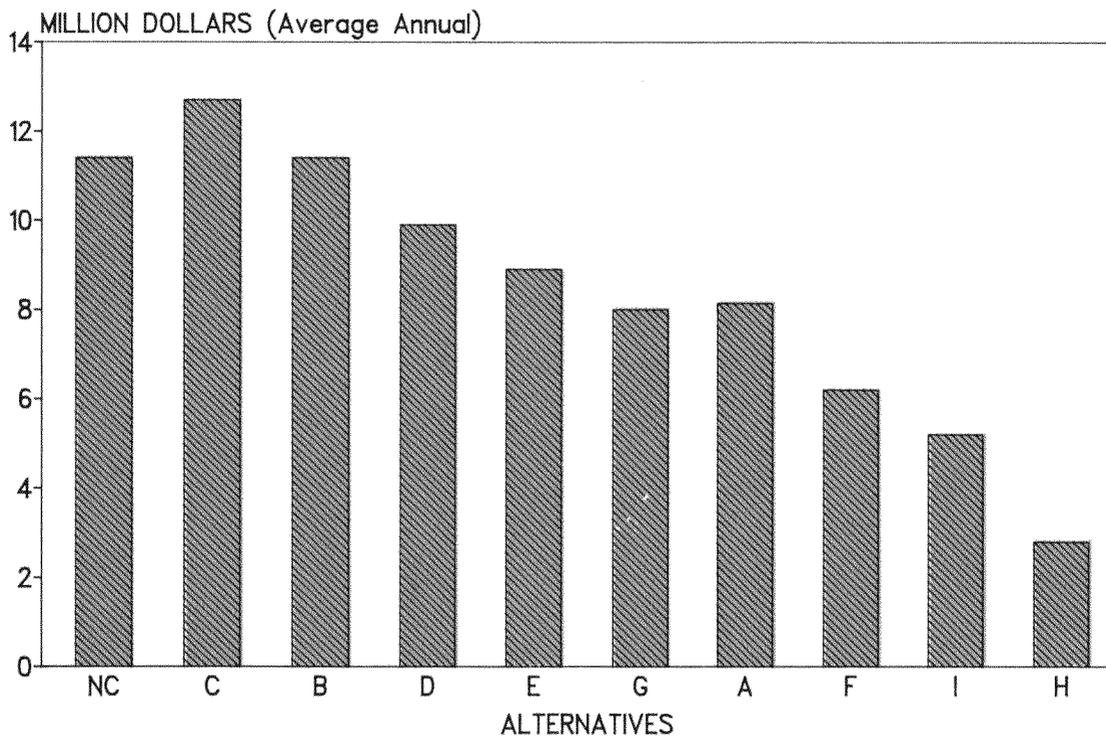
**Figure 6**  
**AREAS RETAINING UNROADED CHARACTERISTICS**



**Figure 7A**  
**FIRST DECADE CHANGES IN EMPLOYMENT**  
(Value of 0 based on 1977-86 average forest outputs)



**Figure 7B**  
**PAYMENTS TO COUNTIES, FIRST DECADE**



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## Consequences of Management Practices

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Different mixes, locations, and schedules of practices in the alternatives are designed to produce different levels of resource outputs, such as recreation capacity, habitat capability, timber, and grazing use. The mix of management activities also produce environmental consequences which vary by alternative. These must be described in the DEIS and may be found in Chapter IV. A summary is provided here of only the significant environmental consequences, whether direct or indirect.

### Environmental consequences

Direction for each management area includes standards that provide mitigation measures to insure that long-term productivity of the land is not significantly impaired. Forest-wide standards that apply to all prescriptions also protect the Forest's resources and mitigate adverse impacts. Mitigation reduces or eliminates the environmental consequences of management activities in alternatives.

### Mitigation of adverse impacts

Environmental consequences are described here in terms of their relationships to management activities. Chapter IV of the DEIS estimates the magnitude of these effects for each alternative, and these estimates reflect the application of mitigation measures. Some of these estimates have been included as indicators of the responsiveness of alternatives to public issues, described and compared earlier in this document.

### Physical consequences

**Geology:** There are 53,000 acres of unstable earthflow landforms on the Forest. Alternatives which emphasize timber harvest and associated road building activities in sensitive areas will increase the risk of acceleration of the rate of earthflow movement.

### Geology

**Soils:** Impacts of the alternatives on soils fall into three categories; compaction, erosion and fertilization. Alternatives which increase timber harvest will generally increase acres affected by erosion and compaction, and research indicated that such effects may reduce the capacity to grow trees. Alternatives which increase timber harvest will also increase the amount of acres treated with fertilizer, which will increase the capacity to grow trees.

### Soils

**Air:** The major impact of the alternatives on air quality is the amount of suspended particulates produced by burning slash after timber harvests. Alternatives with high timber harvest levels will be likely to increase production of suspended particulates, because the opportunity to schedule burning to disperse the particulates may not exist.

### Air



## Vegetation

**Vegetation:** The impact of the alternatives on vegetation is determined by the amount of acres managed for different uses. The most profound effects are created by timber management activities. When combined with elimination of old growth on other ownerships, timber harvest may contribute to a cumulative effect on the regional stock of old growth ecosystems.

## Importance of old growth

Concern about dwindling supplies of old growth center around three factors. First, there is evidence that large areas of habitat are needed to maintain viable populations of old growth dependent wildlife (spotted owls, for example). Second, structural elements found in old growth forests (such as large decaying logs) and the ecosystem functions they support (nutrient cycling) appear necessary to perpetuate a productive forest system. Finally, unique features of this community may exist which are unknown at this time; the opportunity to study such features would be reduced by the harvest of remaining old growth.

## Wildlife

**Wildlife:** Species which require forage will generally benefit from alternatives which increase timber harvest. Removal of tree cover permits the growth of plants used as food by many species of wildlife. Timber harvest can therefore be beneficial to wildlife by increasing overall vegetative diversity up to the point of which cover becomes in short supply for species which require the protection of cover. Habitat for species which depend on older vegetation communities will be diminished in these same alternatives. Viable populations of all species will be maintained in any alternative selected, with the possible exception of Alternative NC.

**Aquatic Resources:** Effects center around water quality and fish habitat. Fish habitat can be described in terms of aquatic habitat stability, that is, the resistance of habitat to losses in productivity due to disturbances such as floods. A high level of diversity tends to indicate a high level of stability.

## Aquatic Resources

Forest-management activities involving major modifications of riparian areas or aquatic habitats can impose effects over and above those of natural disturbances such as floods or fires. Timber harvest and road construction may reduce diversity, stability, and water quality. Potential cumulative effects may occur in the White River and Fifteenmile stream systems, due to a combination of agricultural activities on private land and Forest timber harvest.

**Fire:** Fire occurrence and resource damage will increase under high timber harvest alternatives as a result of increased use of power machinery and the burning of slash. The long-term result of high levels of harvest will be young forests with extensive road systems. Such forests are less likely to be damaged by fire due to low fuel loadings and easy access for fire control equipment.

## Fire

### Consequences to the Human Environment

**Communities:** Employment and income in timber-dependent communities will vary in response to timber-harvest levels. Changes in harvest from other ownerships may lead to cumulative effects on timber-dependent communities in Forest alternatives that reduce harvest from present levels. Development of the Forest for timber management may change recreational use patterns. Effects of the alternatives on livestock and minerals will have insignificant effects on communities.

## Communities

Alternatives at the ends of the range considered, such as C and H, will generate considerable controversy as particular local interests receive increasingly less attention. Alternative C will affect lifestyles in the Portland area as it gives timber equal priority with water quality in the Bull Run Watershed.

**Recreation:** Opportunities for developed recreation would not vary by alternative. Dispersed motorized recreation opportunities would increase under alternatives that construct and maintain more roads for timber harvest. However, the quality of the natural setting would decline. Opportunities for dispersed nonmotorized recreation will decrease over time under all alternatives.

## Recreation

**Proposed Wild and Scenic Rivers:** All or parts of four rivers have been proposed for designation as Wild, Scenic, or Recreational. Their continuing suitability will depend upon whether they are recommended for such designation in an alternative.

## Proposed Wild and Scenic Rivers

**Wilderness**

**Wilderness:** All alternatives will preserve existing wildernesses. Alternative I also recommends the creation of the Olallie Wilderness. The Wilderness environment may be affected in most alternatives by timber harvest in areas adjacent to Wilderness boundaries.

**Unroaded Areas**

**Unroaded Areas:** The natural environment will be altered in ten areas presently possessing unroaded characteristics unless they are included in a management area with standards that prohibit road construction or timber harvesting. In some cases timber harvest will be planned in unroaded areas, but entry of the areas for this purpose will be deferred until the forest plan is revised. Such deferment is less feasible in alternatives where harvest will initially be greater than the Forest's long-term sustained yield capacity.

**Special Interest Areas**

**Special Interest Areas:** Special Interest Areas are intended to maintain unusual scenic, historical, archeological, geological, botanical, zoological, or other special features of the Forest. Their use for incompatible purposes in an alternative will reduce or destroy this value. Of existing SIA's, only Olallie would not maintain these features in all alternatives. Additional areas are expressly proposed in some alternatives, benefit from compatible management direction in others, and are fully developed for timber management in other alternatives.

**Visual Quality**

**Visual Quality:** Maintenance of scenic quality varies greatly by alternative. The primary variable is the amount and rate of timber harvested in the more popular viewsheds; that is, the impact on scenic quality is greater when more lumber is harvested than the quantity which should be allowed to perpetuate a natural appearing condition.

**Cultural Resources**

**Cultural Resources:** Standards protect the cultural resources of the Forest under all alternatives. The possibility of damage to as yet undiscovered resources will be higher under alternatives with a high level of timber harvest.

**Energy**

**Energy:** Alternatives with a low timber harvest will use the least energy.

**Economic Value**

**Economic Value:** Investments in both timber harvest and recreation (including use of fish and wildlife resources) produce significant identifiable economic benefits from the Mt. Hood National Forest. Timber is the only resource generating sizable cash returns to the treasury.

**Short-Term Use Versus Long-Term Productivity**

**Timber harvest and resource protection**

Even-aged management of timber (which includes clearcutting) is the only proposed short-term management activity that has the potential to significantly impair long-term resource productivity. However, the National Forest Management Act requires that such harvest systems be carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources, and the re-

generation of the timber resource. Management standards are designed to ensure this result. Some logging roads, however, will be in place for many years.

### **Irreversible and Irretrievable Commitment of Resources**

The preferred alternative (E) will result in road construction and timber harvest in unroaded areas, which will effectively eliminate opportunities for semi-primitive nonmotorized recreation in such areas. There is a risk that this alternative will also damage archeological sites through timber harvest, road construction, and access for vandalism. Very old timber that is harvested is irretrievable from a practical standpoint. The preferred alternative will permit extraction of minerals. If these resources are extracted the commitment will be irreversible.

**Preferred Alternative  
(E) Commitments**

### **Probable Adverse Impacts Which Cannot Be Avoided**

Management of the Forest for commodity production requires some environmental trade offs. In addition to the resource commitments mentioned above, the preferred alternative (E) will cause temporary reductions in water and air quality on a localized basis. It will alter the visual landscape for relatively long periods of time. Some communities near the Forest will experience a decrease in employment and income. Fire hazard will temporarily increase in timber sale areas between the time that timber is felled and slash disposal operations are completed.

**Unavoidable  
environmental  
trade offs**

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## **Major Conclusions and Areas of Controversy**

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The DEIS describes alternative land management plans for the Forest. The outputs and effects of the range of alternatives indicate that not all forest management goals suggested by the public issues are complementary.

Some are essentially irreconcilable, such as timber production and wilderness qualities. Other goals may be achieved on the same acre of land. Wilderness and other undeveloped areas provide habitat for wildlife species that are becoming less common in the Pacific Northwest because they require old stands of timber. On this Forest, timber management and livestock grazing are very compatible. Natural grazing lands are not generally found on the Forest. Timber harvest creates forage until a new stand of trees is fully established. The visually attractive scenery found in stream and corridors seems to be compatible with fisheries management. Maintaining these values calls for management of timber that involves smaller harvest units and retains older trees.

**Some goals  
compatible**



### **Activity level affects compatibility**

Other forest uses may be compatible at some levels of activity, but begin to conflict at some point. For instance, wildlife requires diverse habitat features. Where a natural forest is composed of great expanses of uniform tree cover, habitat may be improved by some amount of timber harvest. Where significant portions of the Forest support shrubs or young trees, removal of timber may produce a shortage of needed cover and reduce the ability of habitat to support wildlife.

### **Timber harvest and roaded recreation**

Another complicated relationship is that of timber harvest to dispersed roaded recreation. More roads increase access to recreational opportunities on the Forest, but the timber harvest used to pay for the roads may also impair the opportunities sought by the recreationists. Carefully planned removal of trees will perpetuate a natural appearing condition in the long run. Such management of timber will not produce the greatest possible volume however, and will cost more, increasing the possibility of uneconomical sales.

The relationship between local communities and timber-management activities also deserves attention. Changes in timber-harvest levels produce the most significant changes in economic benefits to timber-dependent communities. Alternatives that reduce total volume below present levels are expected to cause loss of jobs and revenues. However, short-term timber production beyond what the Forest can biologically sustain (its long-term sustained yield capacity) will probably only postpone economic and social disruptions in communities that have a high proportion of employment in wood processing. There may also be immediate social or economic costs of timber-management activities resulting from loss of other resources used by local Forest visitors.

### **Economics of timber harvest levels**

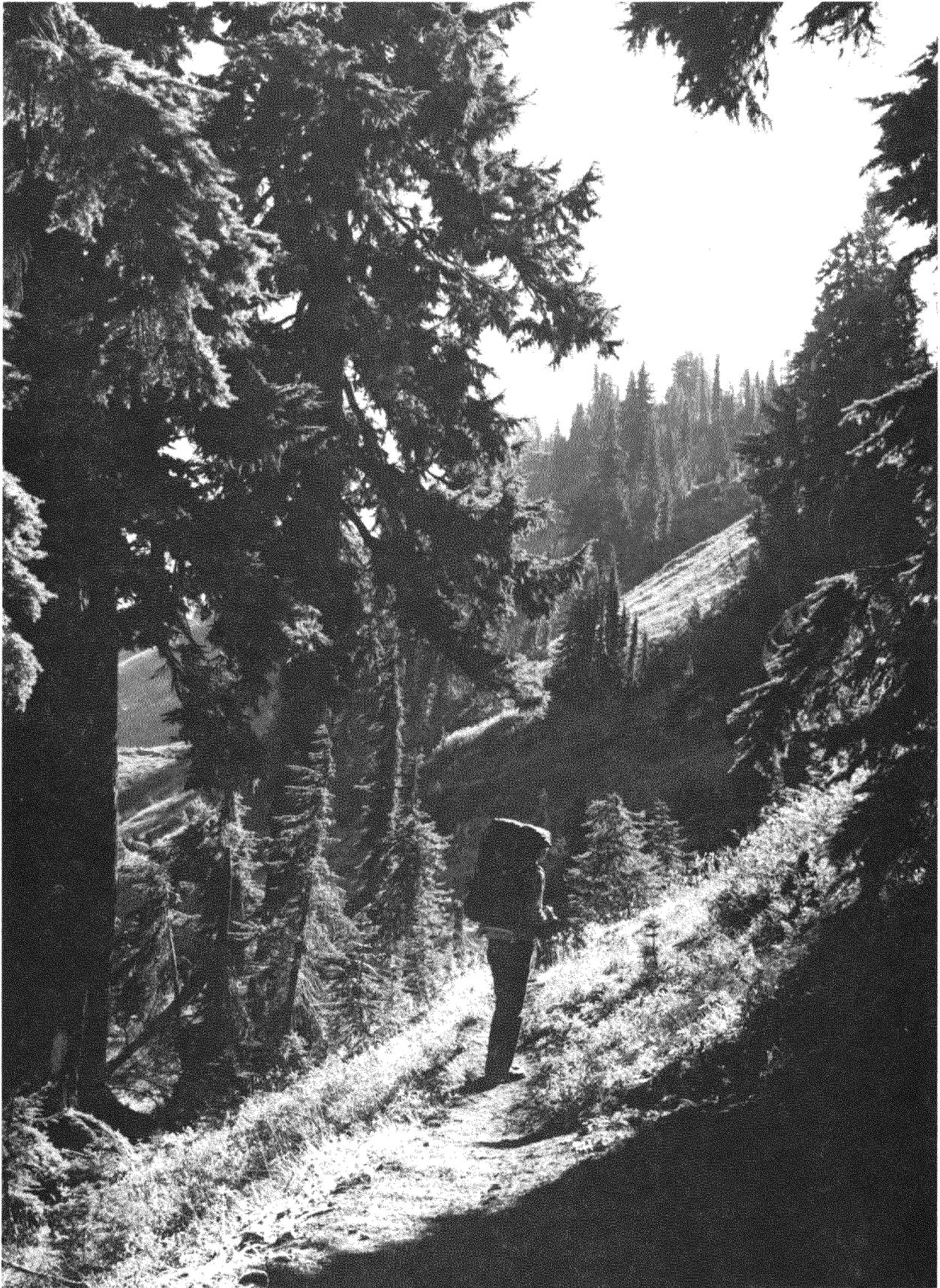
Economic efficiency is an important objective of management of the National Forest System. Present net value (PNV) is used as an index of this efficiency in comparing alternatives. Quantities of timber and recreation are the prime determinants of PNV on this Forest. Other benefits are not represented by estimates of their dollar value in PNV, but their value is nonetheless important in determining which alternative provides the greatest benefits to the public.

### **Determinants of Present Net Value**

A review of the alternatives demonstrates that the capability of the Mt. Hood National Forest to provide for various uses is not unlimited. What is most evident from a comparison of these alternatives is the reduction in timber production that results as other issues are addressed by land-use decisions. In particular, the analysis suggests that the Forest can not meet suggested long-term demand for either its timber or its dispersed recreation under any alternative.

Difficult choices are represented by the alternative management plans considered here. Alternative E has been proposed as the alternative that most closely approaches the objective of maximizing overall net public benefits. The response to this proposal by the public will help the Forest Service determine whether changes in the land management plan can be made which will better achieve this objective.

### **Rationale for preferring Alternative E**



# Section V: Your Turn

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## How You Can Help

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Since the National Forests are managed to benefit all of us, it is important that you and other members of the public give us your ideas on how you think National Forests should be managed.

The draft Environmental Impact Statement and Draft Forest Plan describe the Mt. Hood National Forest and display a variety of alternative ways to manage it. This period of public review of these documents is your opportunity to analyze the alternatives and share your comments.

Please send your comments by using the response form or in any other format you find suitable. If you need information or assistance, call:

Public Affairs Officer  
Barbara Kennedy  
Phone: (503) 666-0751

or

Planning Staff Officer  
William Geurds  
Phone: (503) 666-0795

Individual comments are the most important input we can receive. Your interests, desires, and needs - expressed in comments on the alternatives - are critical in helping us analyze all of the input. Input received in form letters and petitions is not nearly as useful as individual comments.

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# Notes

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